

PAPER B: AMENDMENT OF A PATENT SPECIFICATION
7 October 2015, Wednesday
1330 – 1730 hrs

Maximum Time: 4 Hours (includes reading time)

Maximum Marks: 100



INSTRUCTIONS TO CANDIDATES

1. This Paper consists of 21 pages, including this cover page.
2. Type/Write your answers in English. Answers in any other language will not be marked.
For candidates who opted out from laptop examination: Answers in illegible handwriting will not be taken into consideration.
3. One hardcopy of the question paper is provided, for your reading and for your use (optional) when answering the question(s) in the Answer Script/Answer Booklet(s). For candidates who opted out from laptop examination: You are given two hardcopies of the question paper.
4. Only your answers and/or drawings to the question(s) typed/written or indicated/glued in the Answer Script/Answer Booklet(s) provided by the Examination Secretariat will be considered. Candidates should not change the format of the Answer Script or type in the margin. For candidates who opted out from laptop examination: You are to write on one side of each sheet in the Answer Booklet(s).
5. Information provided in the question(s) may be obtained from actual situations or modified therefrom for the purpose of this examination. You should accept the facts given in the Paper. Assume also that the prior art given is exhaustive.
6. For the purpose of this Paper you do not need to propose any amendments to the description of the Patent Application.

To be continued

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7. The documents provided in this question are:

- a. Document A: Letter from Applicant (2 pages);
- b. Document B: Singapore Patent Application (9 pages);
- c. Document C: Written Opinion (2 pages);
- d. Document D1: Auto Body Dent Puller (3 pages); and
- e. Document D2: Dent Puller (3 pages).

End

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Document A – Letter from Applicant (1/2)

1. Thank you for taking over this case and for forwarding the written opinion from IPOS.
I've taken a careful look at the examiner's comments and the 2 documents he has cited.
I think he does not have a clear idea of what my invention is about - do we need to reply
5 to him? I will be attending a trade conference in the month of October. Anyway, here are
my thoughts:

2. I'm not sure what happened but the previous patent attorney must have prepared this
application in a rush. It was partly our fault as we were rushing to get the case filed
10 before the marketing department launched their big promotional campaign at Auto Mega
Mall - we gave the previous patent attorney a week to prepare and file the case, I'm not
sure what time frame is typically needed.

3. We noticed that the claims missed out a few important features we were hoping to get
15 protection for:

- there are grooves on our puller to enable lateral displacement of the supports
- a wing nut to tighten the adaptor to the puller

However, I leave it to your discretion to determine if these are patentable in view of the
20 references.

4. Other than selling the puller-and-adaptor device, we are also hoping to sell consumables
in the form of adhesive cartridges – it would bring customers back to us regularly if they
want our proprietary adhesive. I notice the claims didn't talk about this as well – clearly I
need protection for the adhesive cartridges, independently of the puller-and-adaptor.

25 5. Regarding adhesives: our lab has now worked out an outstanding hot melt adhesive
formulation: 40–50% of EVA copolymer for good strength, 20–30% of tackifier resin, and
20–30% of paraffin wax. Please ensure that we claim this as well - we're really excited
about this, please advise how best we should protect it.

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Document A – Letter from Applicant (2/2)

- 5 6. In recent months, we have been in discussions with mechanic shops and to our surprise,
 they are keen to become licensed repair shops that utilize our method of repair,
 regardless whether they use our puller-and-adaptor device, in consideration of a small
 annual fee, which in all honesty is a miniscule sum in comparison to the potential
 number of puller-and-adaptor and adhesive cartridges I can sell, but imagine the
10 publicity it can generate for us. It will be excellent if we could claim such a method of
 repair. We mentioned this possibility to the previous patent attorney, about the use of
 LED lighting to cast a reflected image on the dent during repair, but evidently he didn't
 claim that as well.
- 15 7. Based on my comments above, please decide the best way to get us through this
 examination so that we can still secure the broadest possible protection.

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Document B: Singapore Patent Application (1/9)

Device for Removing Dents

5 (Filed : 1 January 2014)

FIELD OF THE INVENTION

This invention relates generally to automotive repair and more particularly to the removal of small indentations or dents from the body panels of a vehicle.

10 **BACKGROUND**

The need to remove large and small dents in the sheet metal body panels of a car is common to all car owners. Accidental knocks from adjacently parked cars, hail stones and pedestrians cause dents on the body of a car throughout daily use, resulting in unsightly dents on the car. Various devices for removing dents have been proposed over the years. Dent removal rods of various configurations are commonly used to push at the dented portion from beneath the body. In cases where the dents are serious, or inaccessible from underneath the body panel, a dent puller is used instead.

20 A typical dent puller comprises a rod with a dent attachment located at one end, and a pulling handle at the other end. A slide hammer for imparting backward knocks against the handle is located concentric to the pulling rod and movable along the length of the rod. By fastening the dent attachment of the dent puller onto the dent and operating the slide hammer, a user gradually pulls the dent out.

25 Two approaches are typically used to fasten the dent attachment onto the dent. In the first, an opening is drilled into the dent so that the dent attachment, which is in the form of a hook in this instance, may be positioned beneath it. The dent puller is then operated by repeated action of the slide hammer. A key problem with this approach is the need to drill openings into the body panel. The drilled openings need to be patched up by welding, and then abraded back so that the weld is flush with the surrounding metal, and then re-painted, a highly laborious process. In 30 the second, a high voltage spot weld is used to weld copper rings or hooks to the dented area.

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Document B: Singapore Patent Application (2/9)

The welded copper pieces provide a firm attachment on the dent for the dent puller to operate without having to drill openings into the body panel. The welded copper pieces come off with each pull of the dent puller. By repeated spot-welding and pulling at the dent via the welded copper pieces, the dent is eventually pulled out. Nevertheless, the areas spot welded with the copper pieces need to be repainted.

In general, dent puller devices are difficult to control, because the repeated hammered pulling action on the dent puller is a relatively violent occurrence, making it difficult to have the pulled dent exactly match and be flush with the surrounding metal.

Thus, a need exists for a dent removal tool capable of removing dents in the body of a vehicle that can be accurately controlled to ensure that the dent is pulled precisely out to be flush with the surrounding area.

SUMMARY OF THE INVENTION

This object is achieved in a simple manner by a device for removing dents from sheet metal surfaces of an automotive body panel device comprising: an adaptor attachable to a dent, and a puller attached to said adaptor for exerting continuous controlled pulling force on said adaptor to pull said dent back to a flush configuration. In a preferred embodiment, the adaptor comprises an adhesive bolt attachable to the dent by adhesion. In another preferred embodiment, the puller comprises a counter holder having a central opening for receiving the adhesive bolt. In operation, the adhesive bolt is gradually retracted through the central opening of the counter holder. A huge advantage of using adhesion over conventional methods as described above is absence of damage to the paintwork of the dent. Also, compared to restoration by knocking action, here a defined pulling is made possible, force to be transmitted under constant control with an exact stroke, without substantial force peaks.

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Document B: Singapore Patent Application (3/9)

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be explained in more detail below with reference to preferred embodiments and with reference to the attached drawings, in which:

FIG. 1 shows a perspective view of an embodiment according to the invention of a device for restoring dented bodywork, in disassembled layout,

FIG. 2 shows a perspective view of the embodiment according to the invention, which is illustrated in FIG. 2, assembled and ready for use,

FIG. 3 shows a perspective view of the embodiment according to the invention, which is illustrated in FIGS. 1 and 2, in an assembled position ready for use,

FIG. 4 shows a cross-sectional illustration of an adhesive stopper with an adhesive reservoir, and a heating device inserted into the adhesive stopper,

FIG. 5 shows a cross-sectional illustration of an adhesive stopper comprising an adhesive reservoir, and a threaded rod inserted into adhesive stopper.

DETAILED DESCRIPTION OF THE INVENTION

As shown in FIG. 1, 2 and 3, the device according to the invention is denoted in its entirety by device 1 which comprises an adaptor which works in conjunction with a puller to exert a pulling force in a gradual and jerk-free manner in the direction of the arrow A, away from the dented bodywork region to be processed. In particular, the puller is a counter holder 2 and the adaptor is an adhesive bolt 3. The adhesive bolt comprises adhesive stopper 5 which is affixed onto an end of a threaded rod 4. Heat activated adhesive is placed on the adhesive stopper 5 and then applied to the dent, and the adhesive is allowed to set. After the adhesive has set, the adhesive bolt 3 is attached to the dent and the counter holder 2 can then be fastened to the adhesive bolt 3 for pulling.

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5 It was found to be advantageous to have the support surface 6 of the adhesive bolt 3 to have a textured surface, by means of which the available surface area and tensile forces which can thereby be effectively achieved are increased. The textured surface may be implemented as protruding ribs running radially, or a surface with raised bumps, or grooves in the surface of the adhesive bolt, variations of which are all encompassed within this embodiment. By providing a textured surface, the effective surface available for application of adhesive is increased, resulting in better adhesion between the adhesive bolt and the adhesive, so that a substantially
10 higher pulling force can be applied.

For the purpose of providing a support to exert pulling force on the dent, use is made of a puller which comprises a counter holder 3 and a pair of supporting plates 16, 17 attached to the ends of the counter holder. Excellent support may be derived from a stiff rigid bar, which may be in
15 any configuration such as a bow or straight bar, to resist bending stresses during operation. The counter holder is placed onto the adhesive bolt such that the threaded rod 4 extends through central opening 10 running through the counter holder 11. The adhesive bolt 3 is then secured to the counter holder 11 using a wing nut 12 screwed onto the threaded rod. Alternatively the central opening 10 of the counter holder 11 is threaded. The wing nut is readily tightened
20 without expenditure of great effort by turning it in a clockwise direction, and in so doing, adhesive stopper 5 gets retracted away from the panel, thereby pulling the dent in the direction of the arrow A in FIG. 1.

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Document B: Singapore Patent Application (5/9)

In order to better adapt the support of the tool on a body panel during repair, the counter holder 11 may comprise one or two through-grooves 14, 15 located at each end and oriented lengthwise along the longitudinal axis of the counter holder. Each supporting plate 16, 17 is held in place in through-grooves 14, 15 by conventional bolts and nuts. This embodiment greatly improves flexibility of use by allowing lateral displacement of each respective supporting plate along the counter holder, a function not seen in any existing device, thus enabling users to select most stable and secure location for each supporting plate on the body panel.

In order to assist oblique pulling or pulling at rounded bodywork regions, the supporting plates may have articulated feet. This may be realized by the use of joints 20, 21, which may be implemented as hinge joints or ball-and-socket joints, to connect the supporting plates to the threaded rods. This provides effective articulation, allowing the supporting plates to be placed on any slanted or curved surface of the body panel, thereby enabling users to select most stable and secure location for each supporting plate on the body panel.

To prevent supporting plates slipping during operation, a rubber sole may be provided on support surfaces 24, 25 of supporting plates. A rubber sole also prevents accidental damage to the body panel by the supporting plates. This also makes possible a secure support on rounded bodywork region, in which the supporting surface of the body panel does not have to run in a planar manner, but rather, depending on the situation, can have corresponding bent or rounded portions.

The adhesive stopper 5 is produced from any suitable metal, or plastic which can be processed by plastic molding. Due to large pulling forces needed to effect dent repair, it is necessary for the adhesive stopper to be sufficiently strong. Materials such as high density polyethylene or polycarbonate may be suitable. Depending on the damage, the adhesive stopper support surface 6 may be round, oval, square, tetragonal, rectangular, trapezoidal, polygonal or is processed as desired by the user, in order to enable force to be introduced in the best possible manner into the damaged bodywork region.

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Document B: Singapore Patent Application (6/9)

FIG. 4 and FIG. 5 show an embodiment in which the adhesive bolt comprises a tool for applying the adhesive onto the dent, enabling hot melt adhesives to be provided in cartridges as a consumable item. In this embodiment, the adhesive stopper is modified to comprise an assembly of an adhesive stopper 5 having an integrated reservoir of heat activated adhesive 32 and a releasable threaded rod 4. Prior to use, a heating device 6 is first inserted into the central sleeve 34 preferably made of metal, of the adhesive stopper and electrical switch 29 is turned on so that electrical line 31 delivers a current to the heating tip 28, thereby melting the adhesive. The melted adhesive emerges from nozzle 33, optionally with assisted manual pressing of compressible housing 35 to squeeze out the adhesive, to fill the void 7 between the adhesive stopper 5 and the bodywork panel 9 to be processed. The heating device 6 is removed to allow the adhesive to cool. After the adhesive has cooled and hardened, threaded rod 4 is inserted into central sleeve 34 and secured either by mating screw threads 40 as shown in FIG. 5, or a releasable snap fit by pressing a button to retract latches (not shown) and the pulling process is initiated, as described in the foregoing paragraphs, by applying a counter holder and a wing nut is screwed onto threaded rod 4. Once the dent repair is completed, to release the adhesive bolt from the body panel, a hot-air blower may be used to heat up the body panel around the adhesive, and once sufficiently hot, the softened adhesive may be rubbed out manually, typically leaving no traces.

Hot-melt adhesive chemistry is well known and is ideal for this application. A broad range of hot melt adhesives are available in the market and may be used.

The repair process is preferably carried out by casting a reflected image onto the dent with the help of an LED or neon light placed in such a manner that light is reflected in the dent. If the reflected light from the light strip is observed to be wavy around the dented area due to distortions of reflected light caused by irregular surfaces of the dent, it will be perceived that the dent is not fully flush with the surrounding region of the body pane; if observed to be a generally regular reflection, it will be perceived that the dent has been restored and therefore the repair has been achieved. In this manner, it can very easily be observed how the dent repair is progressing with each rotation of the wing nut.

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Document B: Singapore Patent Application (7/9)

CLAIMS

- 5 1. A device for removing dents from sheet metal surfaces of an automotive body panel comprising: an adapter attachable to a dent; and a puller attached to said adapter for exerting continuous controlled pulling force on said adapter to pull said dent back to a flush configuration.
2. The device of claim 1, wherein the adapter comprises an adhesive bolt attachable to the dent by adhesion.
- 10 3. The device of claim 2, wherein the adhesive bolt comprises a threaded rod, and an adhesive stopper attached to an end of the threaded rod.
4. The device of claim 3, wherein the adhesive stopper comprises protruding ribs running radially.
5. The device of claim 1 or 2, wherein the puller comprises a bridge and a pair of
15 supporting plates attached to the ends of the counter holder.
6. The device of claim 5, wherein the pair of supporting plates each comprise articulated feet connected to a ball and socket joint.
7. The device of claim 5 or 6, wherein the pair of supporting plates each comprise a rubber sole.
- 20 8. The device of claim 1, supporting plates are releasably held to the counter holder in order to allow lateral displacement along the length of the counter holder.
9. The device of claim 1, wherein the threaded rod is received by a centrally aligned opening on the counter holder, and is movable relative to the opening when a pulling force is exerted on the adhesive bolt by rotational action.
- 25 10. The device of claim 1, wherein the adhesive bolt comprises a tool for applying the adhesive onto the dent.
11. The device of claim 1, wherein an electric fan is attached to the threaded rod.

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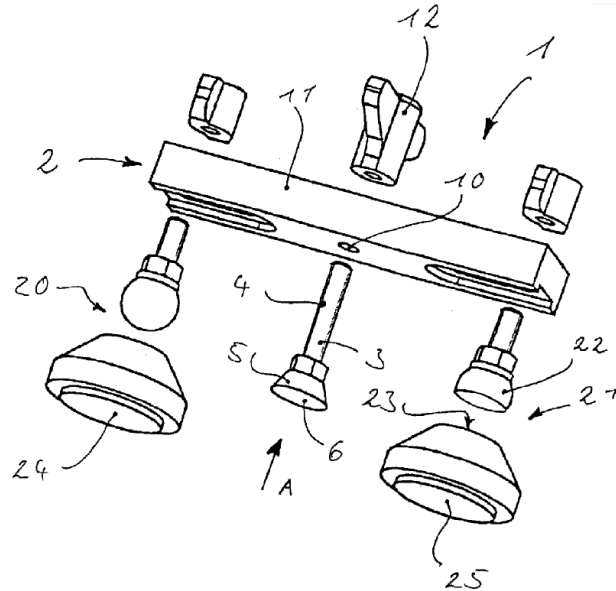


FIG. 1

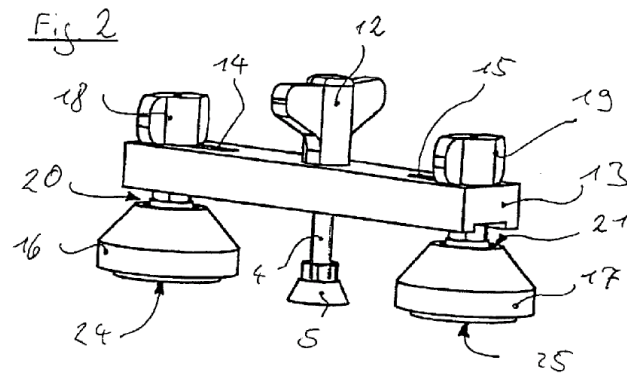


FIG. 2

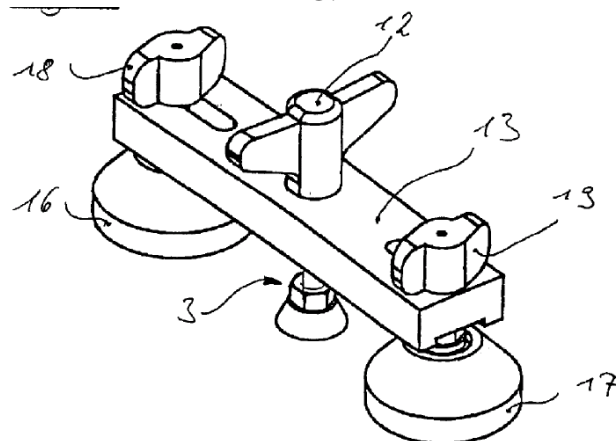


FIG. 3

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Document B: Singapore Patent Application (9/9)

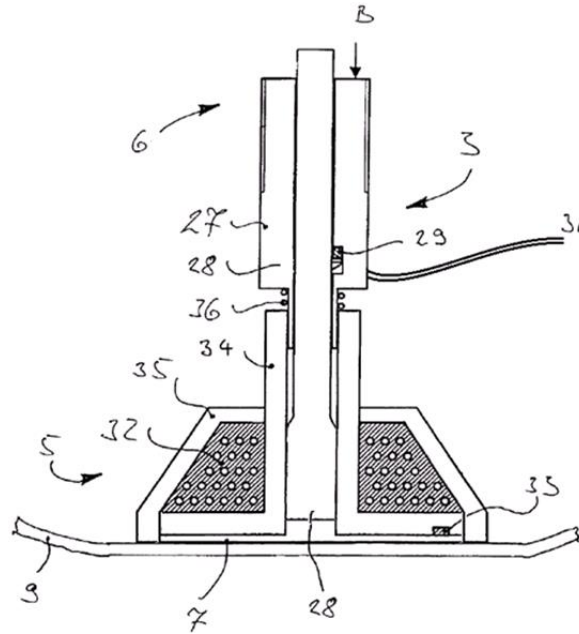


FIG. 4

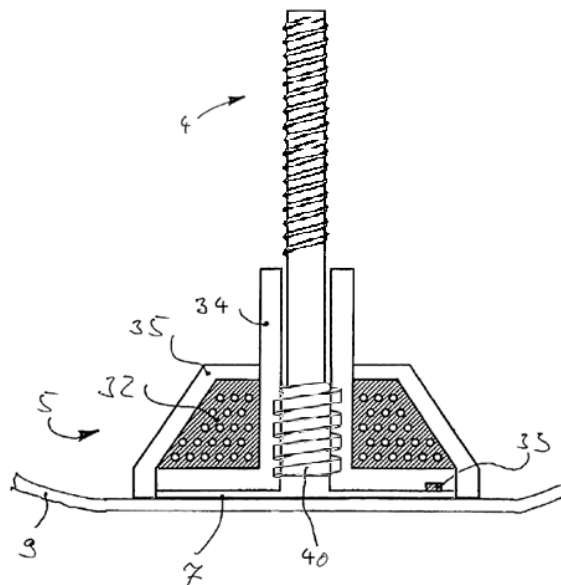


FIG. 5

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Document C: Written Opinion (1/2)

Written Opinion

Novelty

- 5 NO : Claims 1, 5-9
YES : Claims 2-4, 10, 11

Inventive Step

- NO: Claims 1-11
10 YES: NONE

Industrial Applicability

- NO : NONE
YES : Claims 1-11
15

Citations

- D1: US 4,930,335
D2: US 5,203,196

- 20 Novelty:

D1 discloses a device for restoring dented regions of an auto body, the device comprising (referring to FIG. 1) an adaptor (46) attachable to a dent(50), a puller (32) , a counter holder (10,14) having a central opening (66) for receiving a threaded rod (26). The counter holder (16) has articulated feet (40) connected to universal joints (42). Lateral displacement of the articulated feet (40) is possible by loosening and tightening nuts 34 and shifting them along the counter holder (10, 14).
25

Inventive Step:

- D1 does not disclose an adhesive bolt attachable to the dent by adhesion, comprising a threaded rod, and an adhesive stopper attached to an end of the threaded rod. D2 teaches a dent puller attached to body work by adhesive. It would have been obvious to a skilled person to substitute the welded washers of D1 for the adhesive to attach the adaptor to the dent.
30

- 35

Document C: Written Opinion (2/2)

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5 D1 does not disclose an adhesive stopper with protruding ribs running radially. D2 teaches adhesive stoppers “roughened for better adhesion to the adhesive”. It would have been obvious to a skilled person to improve adhesion between adhesive stopper and adhesive by providing various types of roughening or undulations on the adhesive stopper.

10 D1 does not disclose an adhesive bolt comprising a device for applying the adhesive onto the dent. D2 teaches “a container of adhesive and small propane torch may be retained within a slot of housing of pulling tool 12, to be utilized for applying adhesives to the flat head 18 when needed. “It would have been obvious to a skilled person to modify the adaptor 46 of D1 to carry adhesives and to apply the adhesives to a dent in view of D2. D2 also teaches “adhesive is then allowed to cool, optionally with a fan”.

15 Claim 10 is not supported across the entire breadth of the claimed scope, and it is not obvious that the invention would work across the entire scope of the claimed invention.

Other observations:

Claim 5 is unclear because the term “bridge” is not supported in the description.

20 Claims 8 to 10 are unclear because there is no antecedent basis for the claimed features in claim 1 from which claims 8 to 10 depend.

Claim 11 is unclear as the claimed feature is not supported in the description or drawings.

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Document D1: Auto Body Dent Puller (1/3)

D1: Auto Body Dent Puller

Filed : July 3, 1989

5 Inventor: Kosei Ishihara

Date of publication: June 5, 1990

This invention relates to equipment used for pulling dents in the process of auto body repairing and refinishing.

10

Referring to the drawings at FIG. 1 where a first preferred embodiment according to the invention is illustrated, a horizontally aligned generally rectangular elongated bar designated bridge bar 10 is the principal support member. Bridge bar 10 has an upwardly faced bridge bar first edge 12 and a downwardly faced bridge bar second edge 14. TWO U-shaped leg structure, U-shaped legs 36, are apertured through a support member, leg support member 68, on top with leg attachment apertures 44, which slidably fit the bar structure of bridge bar 10. U-shaped legs 36 can be temporarily locked into a desired position on bridge bar 10 by applying screw down tighteners 34. U-shaped legs 36 extend downwardly from horizontally positioned bridge bar 10 below bridge bar second edge 14. One U-shaped leg 36 is slidably attached towards each end of bridge bar 10. Each U end of U-shaped legs 36 has a pivotal foot attached designated foot panel 38. Foot panel 38 is affixed on the bottom or surface contact side with foot panel pad 40 to prevent surface scratching. Foot panels 38 in the FIG. 1 illustration are attached by universal hinging, designated universal swivel attachment 42, which allows all four of foot panels 38 individual multi-directional foot adjustment to compensate for uneven foot resting surfaces.

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Document D1: Auto Body Dent Puller (2/3)

A solid cylinder-like block, cylinder 16, is structured as an inherent part of bridge bar 10 and is centrally positioned in bridge bar 10. Cylinder 16 is longitudinally elongated. A portion of cylinder 16 extends upwardly right angled to bridge bar 10 above bridge bar first edge 12 a short distance. Bore 66 opened longitudinally through cylinder 16 provides a vertical passageway through bridge bar 10. Cylinder 16 has two protruding shoulder-like flat plates, lever attachment shoulders 18, running vertically along opposite sides. Lever attachment shoulders 18 are right angled continuations of bridge bar 10. Mounted centrally on bridge bar 10 to pass slidably through bore 66 in cylinder 16, is a vertically disposed pull rod, rod 26. Rod 26 has mechanics arranged to cooperatively operate with mechanics in a collar 24 through which rod 26 passes above the top of cylinder 16. The cooperative mechanics can be threading or any adjustable retainers which will maintain rod 26 adjustably retained temporarily fixed in collar 24. For length adjustment and for fastening pull rod hook 46 to washer pull rod 56 (FIG. 2), rod 26 is illustrated threaded. Rod 26, when threaded, can be raised and lowered by turning rod adjustment knob 28 which screws threaded rod 26 up and down in a threaded collar 24. For greater pulling power, two lever arms 30, manually operated by grasping lever arm handles 32 and pulling up, are pivotally affixed by pivotal attachments 20 to lever attachment shoulders 18 and by lever link rods 22 attached by pivotal attachments 20 to a threaded collar 24 which pushes against and activates a threaded rod 26.

In actual operation, aligned washers 52 are welded along a dent area 50 in an automobile body surface section 48. Washer pull rod 56 is passed along through the apertures in washers 52. The lower distal end of the vertical rod 26 is provided with a small strong U-shaped hook, pull rod hook 46. Pull rod hook 46 is designed to hook around washer pull rod 56 equidistance between the two outside washers 52. Rod 26, shown threaded, can then be easily raised by upward force on lever arm handles 32 which raises collar 24, cooperatively threaded, when lever link rods 22 are forced up by the levering action of lever arms 30. Rod 26 slides freely through bore 66 and dent area 50 can be carefully pulled out. FIG. 2 also illustrates foot panels 38 affixed to U-shaped legs 36 by pivotal attachments 20, as an alternative to universal attachments 42.

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Document D1: Auto Body Dent Puller (3/3)

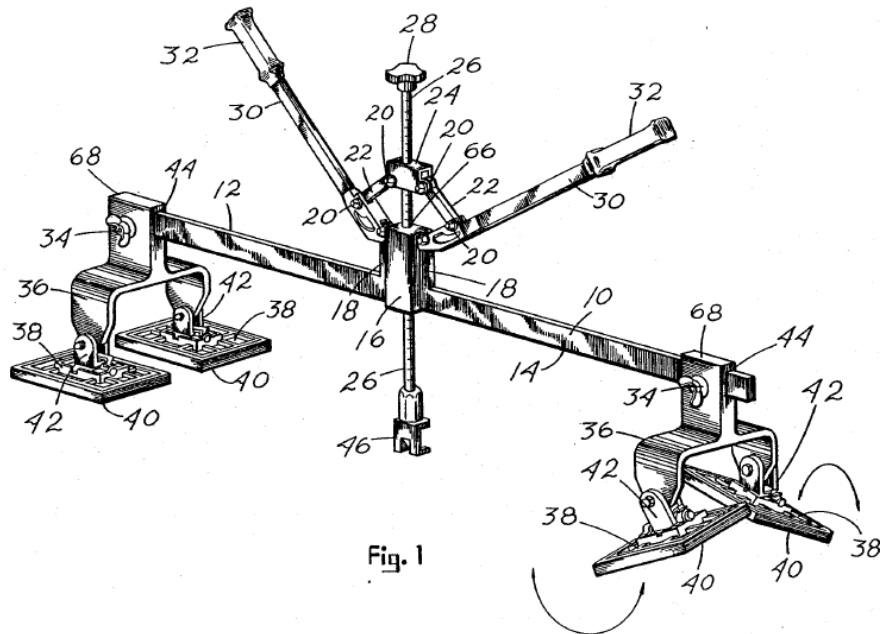


Fig. 1

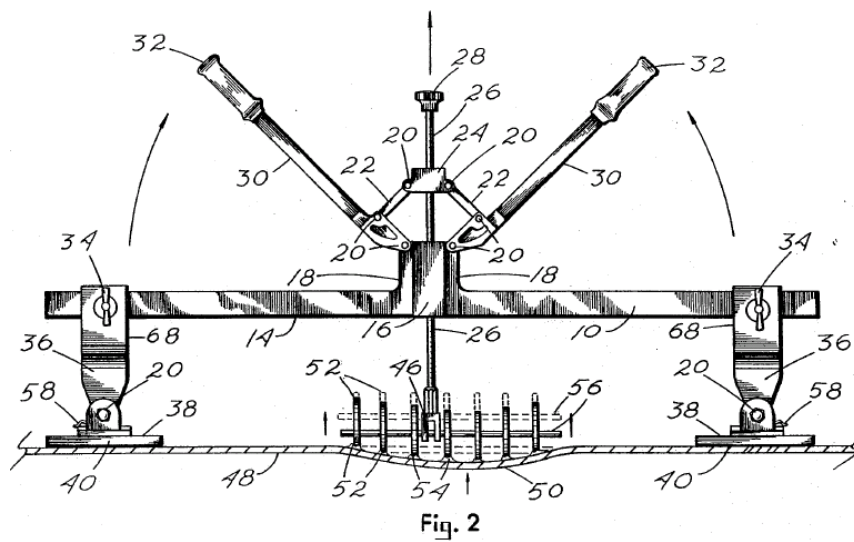


Fig. 2

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Document D2: Dent Puller (1/3)

D2: Dent Puller

5 Filed : 7 Oct , 1991

Inventor: Fremont T. Jenkins

Date of Patent: April 20, 1993

10 The present invention relates to dent pullers and more particularly pertains to a dent puller which may be utilized to pull out small dents without damage to a vehicle's paint or body.

With reference to FIG. 1, the dent puller 10 includes a pulling tool 12 to which is attached a dent pulling cone assembly 14. A dent pulling rod 16 forms a part of the cone assembly 14 and is adhesively attachable to a dent present in the side of a vehicle body 17.

15 The dent pulling cone assembly 14 is more clearly understood by reference to FIGS. 2. In this regard, the cone assembly 14 includes the aforementioned dent pulling attachment rod 16 which is similar in shape to a blunt tipped nail and effectively comprises a metal rod having an integral flat head 18, with the opposite end adjustably screwed onto the handle of pulling tool 12 with a nut. The flat head 18 of the rod 16 is designed to receive an adhesive coating 20, and may be roughened for better adhesion to the adhesive. The cone assembly 14 further includes a rod guiding and supporting cone 22 consisting of two parallelally aligned, spaced apart disks 24, 26 with these disks being interconnected by a plurality of metallic rods 28. The disk 24 has a centrally positioned, through-extending aperture 30 which is of a slightly greater diameter than the diameter of the rod 16. The larger bottommost disk 26 has a much larger diameter through-extending aperture 32, and this aperture 32 is provided with an interior circumferentially extending groove 34. The aperture 32 is designed to receive one of a plurality of interchangeable disks 36, and each of these disks have circumferentially extending flexible rings 38 which are engageable with the groove 34 when the disk is snap-fitted into the aperture 32. Each interchangeable disk is provided with a different diameter through-extending aperture 40 with the intent being to choose a disk having an aperture which is substantially similar in size to a dent to be repaired, and each disk 36 may be constructed either in a flat or concave manner to better fit the type of dent being removed.

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Document D2: Dent Puller (2/3)

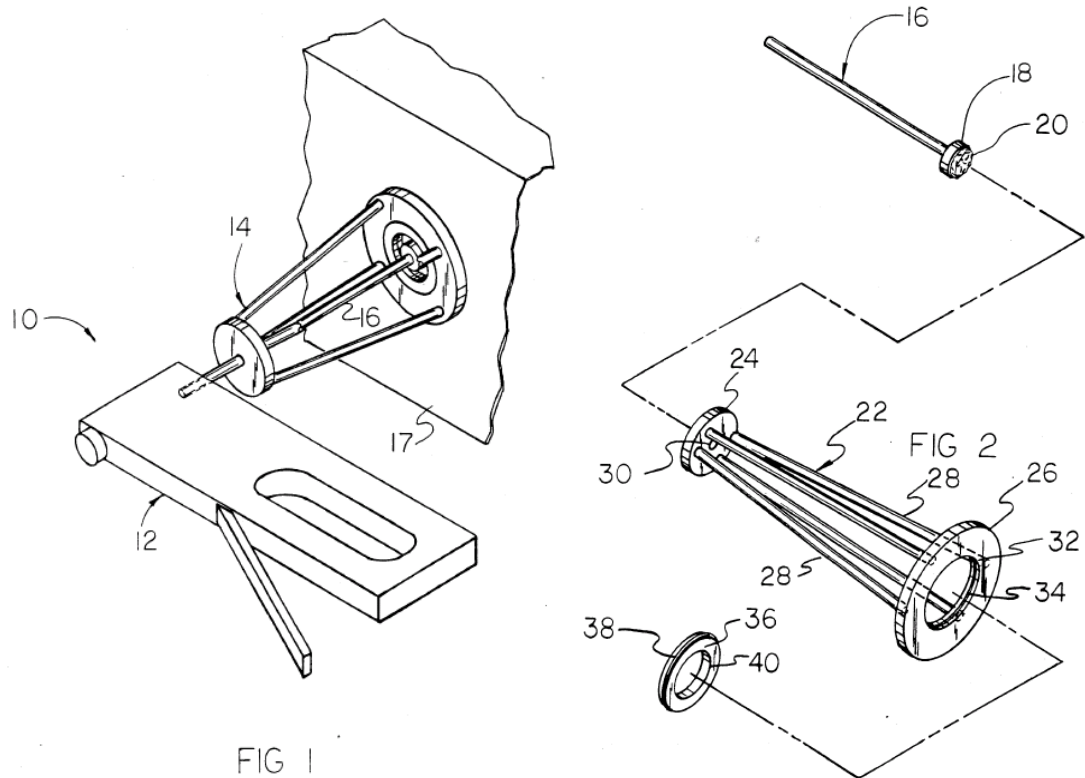
With respect to the manner of usage of the present invention 10 in a typical situation, the metal rod 16 should be no larger than 1/8th inch in diameter, and the head 18 of the rod is coated with
5 a heat activated adhesive 20 so as to allow it to be glued to the deepest spot in a dent. The force required to remove the dent is obtained by the aforescribed commercially available pulling tool 12. The cone 22 is positioned over the rod 16 with the narrow end of the rod being inserted through the aperture 30, and the rod may then be heated until the adhesive reaches a required working temperature (usually indicated by the glue turning white to clear). Heat may be
10 provided by any conventional means, such as by a lighter, a soldering iron, a small propane torch, etc. The adhesive is then allowed to cool, optionally with a fan. Once the adhesive has set, the cone 22 is placed over an existing dent so that the center line of the rod 16 is positioned in the deepest part of the dent, and the entire assembly is then held in place until the adhesive has set up. The cone 22 may then be removed from the rods 16, and a proper size interchangeable
15 disk 36 is snap fitted into the aperture 32 formed in the cone end 26. After repositioning the cone 22 over the rod 16 (large end 26 goes over first), the pop rivet tool 12 is placed on the rod and used to draw the cone tightly against the damaged plane of the vehicle's body. Additional pulling force is then applied to remove the dent and once the dent has been removed, the rod 16 is reheated and removed. Minor compounding and polishing may be required to restore the
20 original luster to the surface paint. The present invention may be sold in a kit form which includes a housing of pulling tool 12 designed with special compartments for holding the cone 22, each of the interchangeable disks 36, the pulling tool 12 and the dent pulling attachment rod 16. Additionally, a container of adhesive and small propane torch may be retained within a slot of housing of pulling tool 12, to be utilized for applying adhesives to the flat head 18 when
25 needed. As can be appreciated, the advantage of the present invention 10 is that it eliminates major surface reworking which is necessary in other methods of dent removal, nor does it require a high skill level usually necessary with conventional methods. Further, the need is eliminated for special refinishing and repairing equipment and as such, the present invention 10 is ideal for both non-professional and professional use.

PAPER B: AMENDMENT OF A PATENT SPECIFICATION
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Maximum Time: 4 Hours (includes reading time)

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Document D2: Dent Puller (3/3)



End