

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
30 April 2009 (30.04.2009)

PCT

(10) International Publication Number
WO 2009/054782 A1

(51) International Patent Classification:
B60R 13/04 (2006.01) **B60R 19/42** (2006.01)

(21) International Application Number:
PCT/SE2008/051185

(22) International Filing Date: 21 October 2008 (21.10.2008)

(25) Filing Language: Swedish

(26) Publication Language: English

(30) Priority Data:
0702366-6 23 October 2007 (23.10.2007) SE

(71) Applicants and

(72) Inventors: **HEROU, Lars** [SE/SE]; Bergsbogatan 9, S-SE-426 79 Västra Frölunda (SE). **HEROU, Lars K** [SE/SE]; Pärt-Antons gata 124, S-SE-426 79 Västra Frölunda (SE).

(74) Agent: **CEGUMARK AB**; Box 53047, Kungssport-savenyen 10, S-SE-400 14 Göteborg (SE).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— with international search report

(54) Title: DEVICE FOR PROTECTION OF A VEHICLE

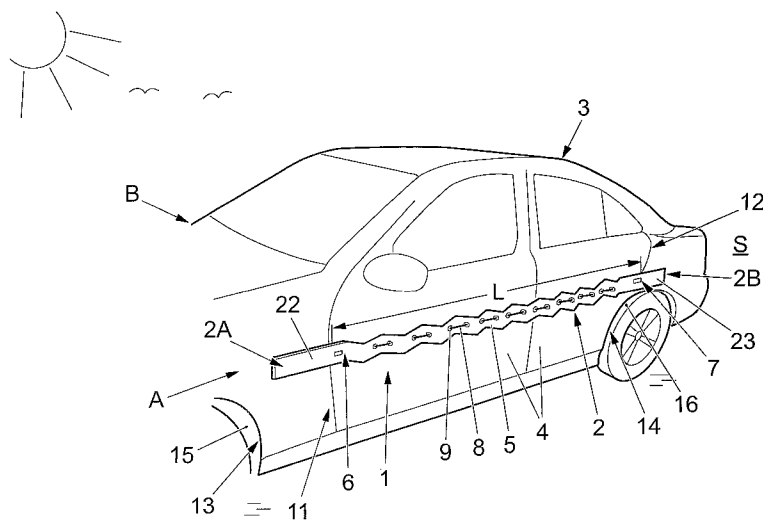


FIG. 1

(57) Abstract: The invention relates to a device (1) for protection (2) of a vehicle (3) in order to prevent damage to the sides (A, B) of the vehicle in question, in connection with parking vehicles in the form of a row beside each other. According to the invention, an elongate band-shaped side protection (2), which is arranged to be possible to be arranged in an extended protection state (S) and in a compressed storage state, respectively, comprises fastening members (6, 7) at mutual distance (L) from each other in order to detachably be possible to be fastened along the desired side (A, B) of the vehicle. The protection (2) is formed of an elongate band and comprises an elastic member (8) in order to enable resilient holding function along the vehicle sides (A, B) in question.

WO 2009/054782 A1

Device for protection of a vehicle

5 The present invention relates to a device for protection of a vehicle, especially of private cars and the like, in order to prevent damage to the sides of the vehicle in question in connection with parking vehicles in the form of a row beside each other, an elongate side protection, which is
10 arranged to be possible to be arranged in an extended protection state and in a collected storage state, respectively, comprising fastening members at mutual distance from each other, in order to detachably be possible to be fastened along the desired side of the vehicle, and that the
15 protection comprises an elastic member in order to enable resilient holding function along the side of the vehicle.

 There is a great problem with parking damage to cars that are parked in rows laterally close to each other. This applies to parking places such as, e.g., supermarkets and
20 in multistorey car parks but also on board ferries and other places where there is a lack of space. This especially applies when the cars tend to become greater and greater and driver and passengers have difficulties in fending off adjacent cars without striking with doors and damaging both their own and the
25 parked car of the neighbour. Such damage can be annoying to get, and also cost a lot of money to have repaired. There are permanent protections in the form of soft borders, for instance such as is shown in DE 19947417, but these are often not beautiful to see on the vehicle. It will be like going around
30 with fenders on a boat.

 US 5,184,857 A1 discloses a device for protection of a vehicle comprising an elongate side protection (20), which is detachably fastenable at the sides of the

vehicle by fastening members (50) arranged at mutual distance from each other. The protection is elastic and receives internally therein an elastic thread (40), which can be stretched out from a contracted storage state to an extended
5 securing state, in which the protection resiliently is held along the vehicle in a protection state. On a stretch cord (40), there are threaded a number of elastic tubular protection elements (100, 20). Internally in said protection elements (100, 20), there is a stiff tube (10) in which the stretch cord
10 (40) is running. The protection elements (20, 100) all the time assume the same length and are not telescopic or compressible length-wise (1) but the stretch cord (40) handles that.

The damping tubes (20) threaded onto the stretch cord (40) can hardly be length-variable since they
15 internally receive a line ferrule in the form of a stiff tube (10). Folding is enabled by the protection being in the form of segments (20, 100) in said known protection. See column 10, lines 64-68, and extension is enabled by only the elastic thread (40) being resilient. The mentioned threaded elastic
20 tubular protection cushions (20, 100) have equal length irrespective of how far the elastic thread (40) is pulled out.

Therefore, the main object of the present invention is primarily to by simple and well working means provide a protection device for a vehicle and which is enabled
25 to from compact closely packed together state easily be possible to be taken out and detachably be possible to be fastened along the side of a vehicle in question and in that connection protect the side of the vehicle against outer damage by the car doors of the neighbour.

30 Said object is attained by means of a device according to the present invention, which essentially is characterized in that the protection is formed of a band composed of plastic or rubber material, which is arranged to in

an active protection state be collected in zigzag shape and in a compressed storage state be collected closely packed together to a pile, contractible by means of said elastic pulling members, by the fact that the protection band along the main part of the length extension thereof is connected with said
5 elastic pulling members and with fastening members supported by the protection band at the respective ends thereof.

According to the present invention, said extensibility and contractibility, respectively, are formed by the fact that there is formed a folded band according to the
10 embodiment, which is shown in Figs. 1-16. Thus, it is essential to have fastening members connected with the proper band to enable at least the extensibility.

The invention is described below in the form of a preferred embodiment example, reference being made to the
15 accompanying drawings in which,

Fig. 1 shows the protection device mounted on a four-door car,

Fig. 2 shows the protection device mounted on a
20 two-door car,

Figs. 3-4 show the function of the compacting of the device from extended protection state to compressed storage state,

Fig. 5 shows the end portion of the protection
25 device in extended fastening-prepared state,

Fig. 6 shows one end of the protection device in mounted securing state,

Fig. 7 shows a part of one of the line ferrules of the protection device,

Fig. 8 shows the side ferrule of the fastening
30 device,

Fig. 9 shows in perspective a parking with laterally parked cars and with the protection in active protection state,

Fig. 10 shows a planar view of a parking with laterally parked cars, one car of which is provided with protection according to the invention,

Fig. 11 shows an example of an alternative fastening member at end of band,

Figs. 12-13 show examples of fastening using such fastening members at four-door and two-door, respectively, vehicles,

Fig. 14 finally shows example of simple fastening member formed of end of band, and

Figs. 15-16 show examples of clamping of such fastening members at four-door and two-door, respectively, vehicles.

The protection is extended in some seconds and attached at the front edge of the driver's door and the rear edge of the rear door. It gives an efficient side protection for doors in, among other things, parking places lying parallel where the space in connection with exit from and entry to a car is very scarce under and the doors (the sides) easily may become damaged of own as well as others' cars. The protection also protects against persons who are walking between the sides of the cars and risk to scrape against the sides of the cars. From covering a part of front wing or fender, doors and a part of rear wing or fender, the protection can fast be pressed together to a small handy packet. The protection is attached by fastening members at the front edge of the front door and at the rear edge of the rear door. The fastening member is kept in place reliably and efficiently when the doors are closed. A glued on washer having a hole constitutes a wear protection for the protection and a through rubber cord, which is provided

with knot on both sides, makes extension and collapsing of the protection simple and efficient.

Below, examples according to Fig. 1-Fig. 10 are first described.

5 A device 1 at a protection 2 of a vehicle 3, 3¹, and especially on that occasion of private cars and the like, which have openable doors 4, 4¹, in order to prevent or at least decrease the risk of damage arising to the sides A, B of the vehicle in question in connection with parking vehicles 10 3, 3¹ in the form of a row beside each other, comprises an elongate band-shaped and/or line-shaped side protection 2, which is arranged to be possible to be arranged in an extended protection state S and in a compressed storage state E, respectively, and fastening members 6, 7 at mutual distance L 15 L¹ from each other. Said protection 2 is arranged in order to detachably be possible to be attached to the vehicle 3, 3¹ along the desired side A, B of the vehicle. The protection 2 comprises an elastic member 8, 8¹, which is arranged in order to enable resilient holding function along intended side/sides 20 A, B of the vehicle.

The protection 2 is formed, which is shown in the drawings, of a band 5, 5¹ manufactured of plastic or rubber material, which is both liquidproof, heatproof and coldproof. This protection band 5, 5¹ is preferably along the main part of 25 the length extension L, L¹ thereof connected with an elastic pulling member 8, 8¹, which extends along the entire or part the length extension L, L¹ of said protection band between the fastening members 6, 7. Preferably, the pulling member 8, 8¹ is formed of a so-called cord of twined rubber and which extends 30 through holes 9 of the protection band 5, 5¹ at regular distances X from each other, as seen along the length extension of the protection band in extended state through the centre of the band.

Said protection band 5, 5¹ is arranged to in active protection state S be collected in zigzag shape and in storage state E collected closely packed together to a pile 10 and contractible by means of said elastic pulling members 8, 5 8¹. This is clearly shown among others in Figs. 1, 3 and 4.

The width of said band may be approx. 10 cm and the thickness may vary between approx. 0,5-2 cm. The length is suitably adapted to different car models. On the outside, the owner may himself write name and/or car registration number so 10 that the protection does not become so attractive to steal.

Fastening members 6, 7, which preferably are arranged to detachably easy be possible to be hooked on around the front and rear, respectively, circumference edge 11, 12 of a door and/or the edge 13, 14 of a wheel housing 15, 16, are 15 preferably formed of ferrule-provided fastening hooks, and where the ferrule is formed of a soft material, such as, e.g., rubber, plastic, textile that protects the enamel from being damaged upon the hooking-on.

The pulling member 8, 8¹ is with one end 8A 20 thereof connected to the protection band 5, 5¹ by means of protection ferrule/ferrules 17 in the form of a number of washers against which a thickening 18, 19, for instance a knot of the pulling member 8, 8¹, is arranged to abut in a certain position.

25 Said fastening members 6, 7, which are formed of a number of detachable fastening hooks, are each one kept mounted by means of a preferably protection ferrule-provided rivet 20 and extend preferably with the rear fastening portion 6A, 7A thereof through an arc-shaped slot 21 of the protection 30 band 5, 5¹. Said respective fastening hook 6, 7 is turnable around said mounting rivet 20, such as is shown in Fig. 8.

Said fastening hooks 6, 7 are pivotably mounted supported by the side protection 2, preferably at a distance M

from the respective ends 2A, 2B thereof. Thereby, a turnable loose part 22, 23 of the protection band 5, 5¹ is formed and which extends past said fastening hooks approx. 0,3-0,5 m in order to additionally protect the respective side A, B of the vehicle further past the fastening hooks 6, 7 and the engagement thereof with the doors 4, 4¹/wheel housing 15, 16 etc., of the vehicle.

From folded state E, in which the band 5 can be held together by the cord 8 by means of, e.g., a knot thereon or by means of a separate lock member of known type, the band 5 can be pulled out almost to the full length thereof. The advantage of the zigzag-shaped configuration in extended protection state S is that you can reach further out laterally from the respective side A, B of the vehicle so that a better damping is obtained if some one opens a door 104 of a laterally positioned vehicle 103 and that the person who then opens the door 104, earlier can sense that there is a car parked on the side, if this has not been already observed. By pulling the respective ends 2A, 2B of the band, the same is stretched out to the full length thereof.

After hooking-on by means of the hooks etc., 6, 7 of the vehicle, the cord 8 works as a rubber elastic that holds the band 5 in place, but allows that the hooks 6, 7 are loosened when the parking is finished and it is desired to drive away with the car. Then the band 5 is easily pushed together to the folded storage state E, such as is shown in Figs. 3 and 4, before the band is locked in a folded formed pile 10 by, e.g., a knot of the cord 8 in the opposite end 8B of the knot 18.

In Fig. 11, a variant is shown of alternative fastening member 150 in the respective end 5²A, 5²B of the band 5². Said fastening member 150 is formed of a thickening of the band 5², by means of a PVC cloth 151, which is folded around

the respective two ends 5^2A , 5^2B of the protection and glued on along the two sides $5A$, $5B$ opposite each other. Between said PVC cloth 151, a thickened portion 152 of a sponge rubber or another elastic durable piece of material is received. For
5 instance, a piece of a sponge rubber wire may work as such a portion.

Suitably, said PVC cloth 151 is pressed together after glue coating using suitable glue against the band surfaces $5A$, $5B$ of band ends 5^2A , 5^2B and closely against
10 the elastic sponge rubber portion 152. In that connection, chamfered ends 153 of the band 5^2 may facilitate the compression so that the PVC cloth 151 is pressed together side 154 against side 155 using glue therebetween.

Said elastic fastening member 150 works in such a way that it is clamped on the inside between the frame 156 of
15 the body and the inner frame 157 of the door 4^1 at the front edge 158 as well as rear edge 159 of a said door 4^1 and works as stop and cannot be pulled out as long as door 4^1 , doors 4^1 , 4^1 in question are closed and in that connection also locked.

In Figs. 14-16, the simplest embodiment of fastening members 250 in a side protection band 52 is shown. By means of increased quality of the band 5^2 , the ordinary ends 5^2A , 5^2B of the band can simply work as fastening members 250 by
20 itself. By simply sticking in the ends 5^2A , 5^2B of the band 5^2 between door 4^2 and frame 256 and after that close the door/doors 4^1 , the flexible band ends 5^2A , 5^2B will efficiently be clamped between door 4^2 and frame 256 at the front edge portion of the front door 4^2 and at the rear end portion 259 of the front door 4^2 or of the rear door 4^2 , respectively.

30 Thus, the flexible band 5^2 is pressed together in the space between the same and is retained efficiently and reliably in protection state CS. Opening of door 4^2 and doors 4^2 , 4^2 , respectively, entails that the band 5^2 comes loose and

can be folded together again after having protected the vehicle
203.

The nature and the function of the invention
should have been understood by what has been mentioned above
5 and shown in the drawings but the invention is naturally not
limited to the embodiments described above and shown in the
accompanying drawings. Modifications are feasible, particularly
as for the nature of the different parts, or by usage of
equivalent technique, without departing from the protection
10 area of the invention, such as it is defined in the claims.
Possibly, it could be possible to have a connection to the
vehicle that enables that it is not possible to space apart the
protection from the vehicle without breaking the same. Suitable
material of the band may be similar to such material that is
15 utilized in rollable ground sheets for camping use, viz.
polyethylene plastic/polyethene.

K64 P2PCT LG/KOE

CLAIMS

5 1. Device (1) for protection (2) of a vehicle (3, 3¹), especially of private cars and the like, in order to prevent damage to the sides (A, B) of the vehicle in question in connection with parking vehicles (3, 3¹) in the form of a row beside each other, an elongate side protection (2), which
10 is arranged to be possible to be arranged in an extended protection state (S), and in a collected storage state (E), respectively, comprising fastening members (6, 7) at mutual distance (L, L¹) from each other, in order to detachably be possible to be fastened along the desired side (A, B) of the
15 vehicle, and that the protection (2) comprises an elastic member (8, 8¹) in order to enable resilient holding function along the side (A, B) of the vehicle, **characterized in** that the protection (2) is formed of a band (5, 5¹), composed of plastic or rubber material, which is arranged to in active protection
20 state (S) be collected in zigzag shape and in a compressed storage state (E) be collected closely packed together to a pile (10), contractible by means of said elastic pulling member (8, 8¹), by the fact that the protection band (5, 5¹) along the main part of the length extension (L, L¹) thereof is connected
25 with said elastic pulling member (8, 8¹) and that fastening members (6, 7) are supported by the protection band (5, 5¹), at the respective ends (2A, 2B) thereof.

2. Device according to claim 1, **characterized in**
30 that the pulling member (8, 8¹) is formed of a so-called cord of rubber, which extends through said protection band (5, 5¹) at regular distances (X) from each other, as seen along the length extension of the protection band (5, 5¹).

3. Device according to claim 2, **characterized in** that the pulling member (8, 8¹) is with one end (8A) thereof connected to the protection band (5, 5¹) by means of protection
5 ferrule/ferrules (17) in the form of a number of washers.
4. Device according to any one of claims 1-3, **characterized in** that fastening members (6, 7) are formed of ferrule-provided fastening hooks, which are pivotably mounted,
10 preferably at a distance (14) from the respective ends (2A 2B) of the protection band (5, 5¹).
5. Device according to claim 4, **characterized in** that the respective fastening hook (6, 7) is held mounted by
15 means of a preferably protection ferrule-provided rivet (20) and extends through a slot (21) of the protection band (5, 5¹) and is turnable around said mounting rivet (20).
6. Device according to any one of claims 1-3, **characterized in** that the fastening members (150) of the
20 respective end (5²A, 5²B) of the protection band (5²) are formed of a thickening of the band (5²).
7. Device according to claim 6, **characterized in**
25 that by means of a PVC cloth (151), which is folded around the respective two ends (5²A, 5²B) of the protection and glued on along the two sides (5A, 5B) opposite each other of the band with a thickened portion (152) therebetween.
- 30 8. Device according to claim 7, **characterized in** that a piece of a sponge rubber wire or another elastic durable piece of material forms a thickened portion (152).

9. Device according to any one of claims 1-3, **characterized in** that the ordinary flexible ends (5²A 5²B) of the band form fastening members (250) and are arranged to be clamped between a door (4²) and the frame (256) of a vehicle
5 (203).

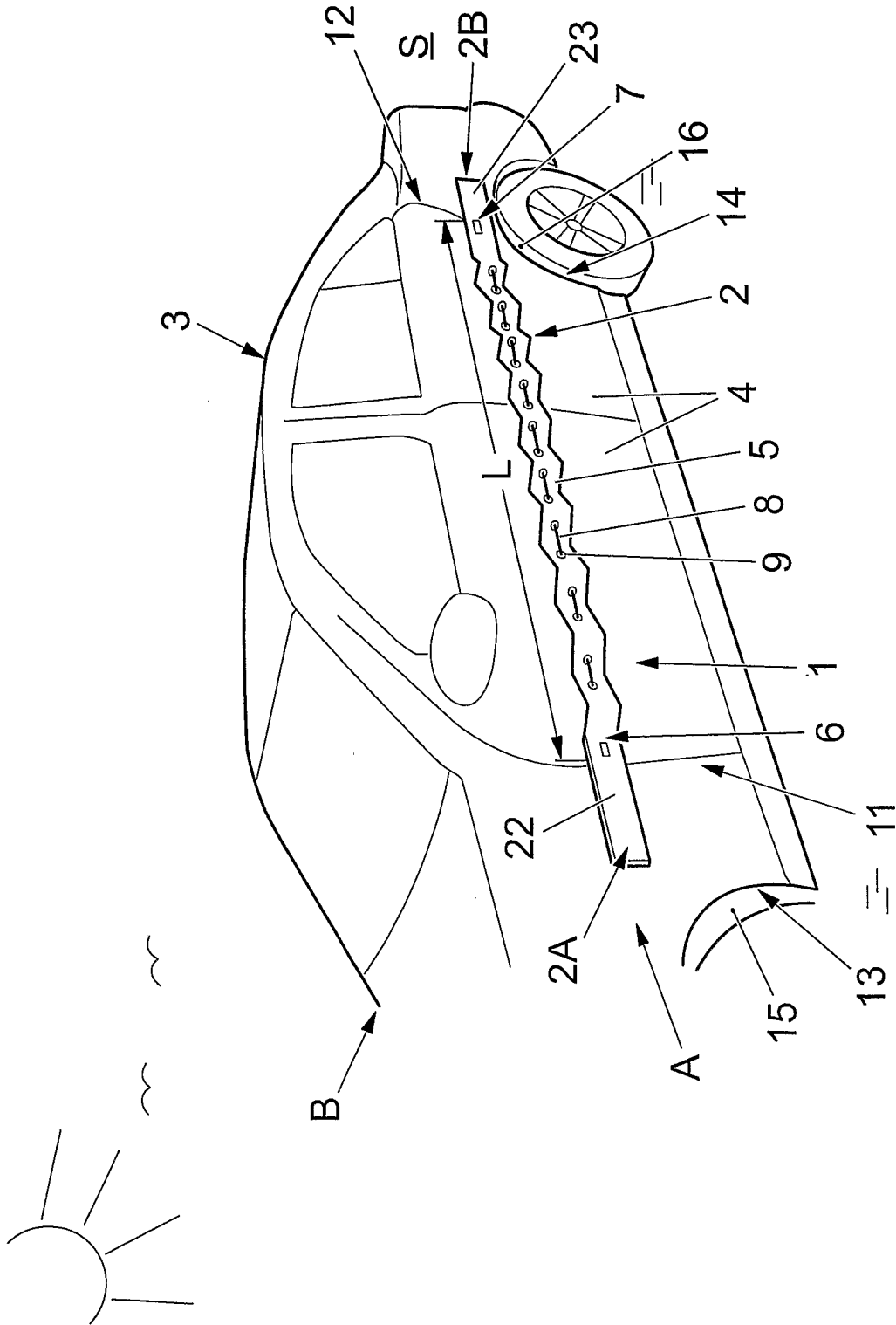


FIG. 1

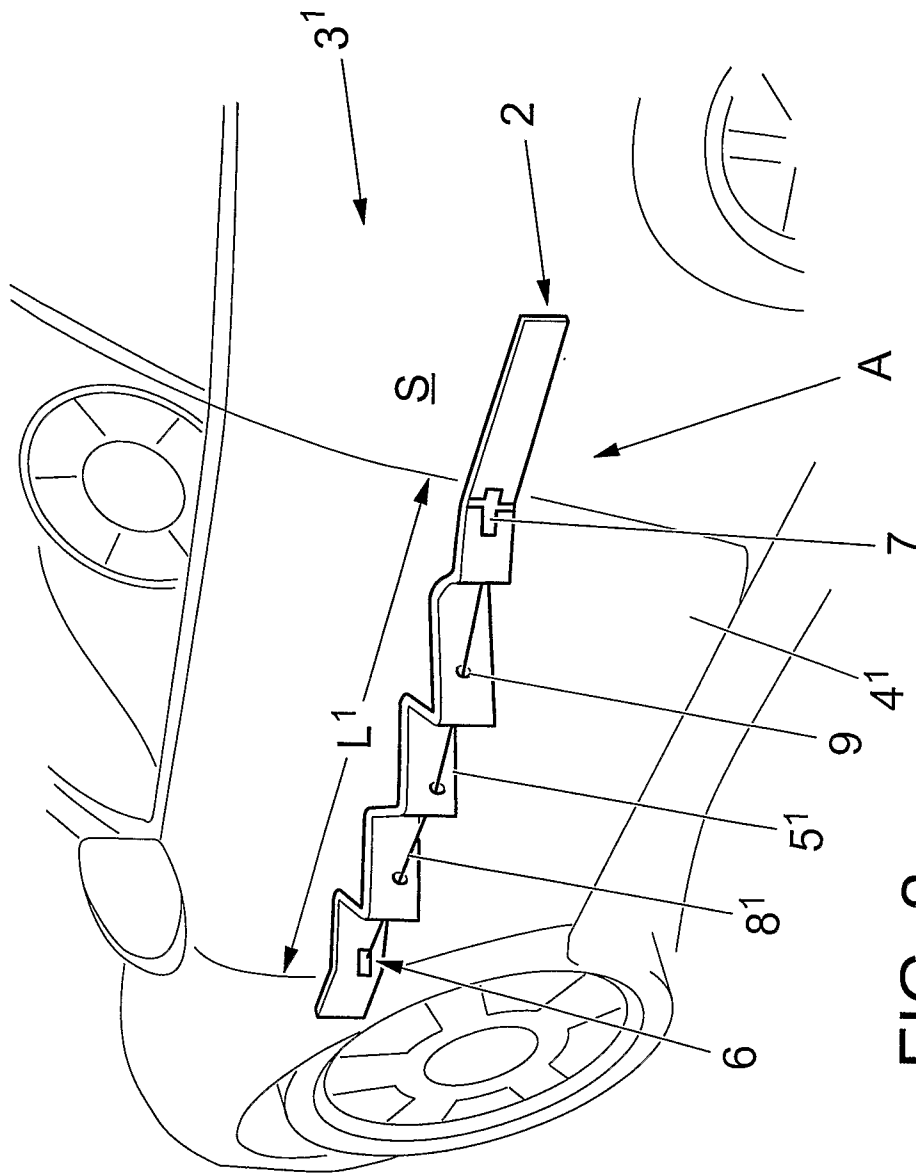


FIG. 2

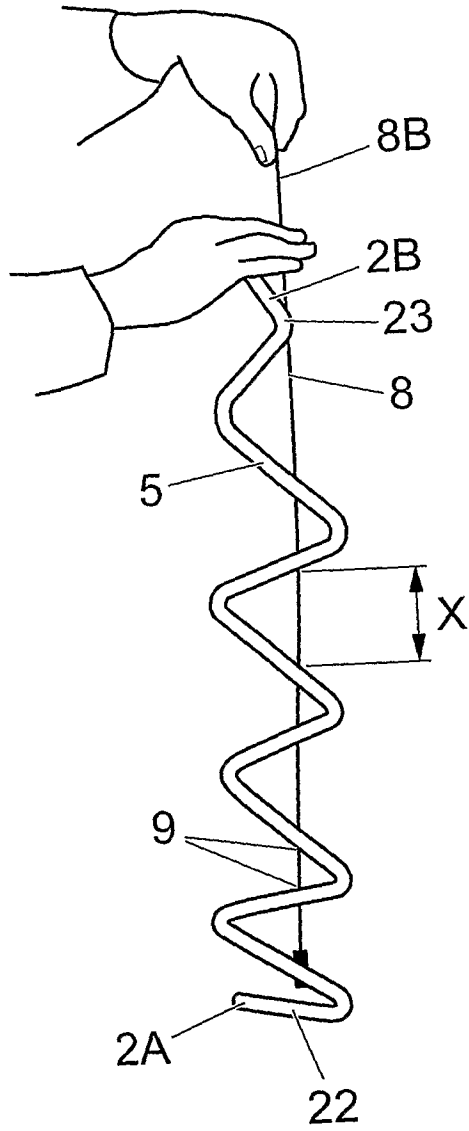
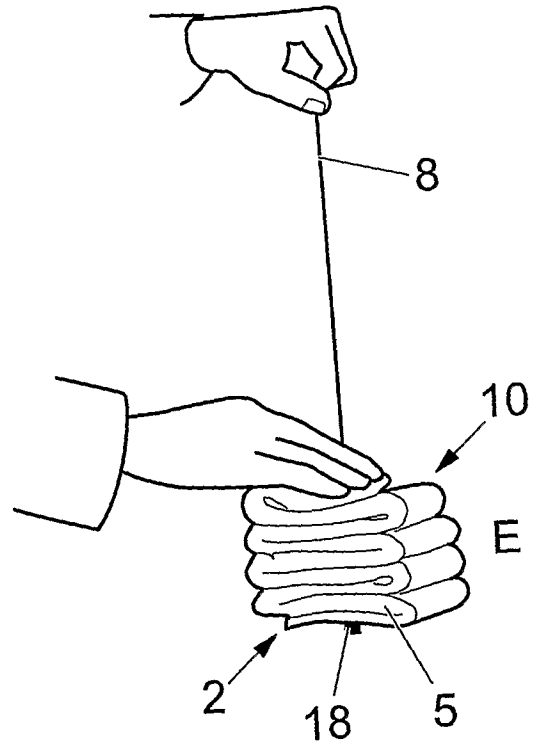


FIG. 4



4/9

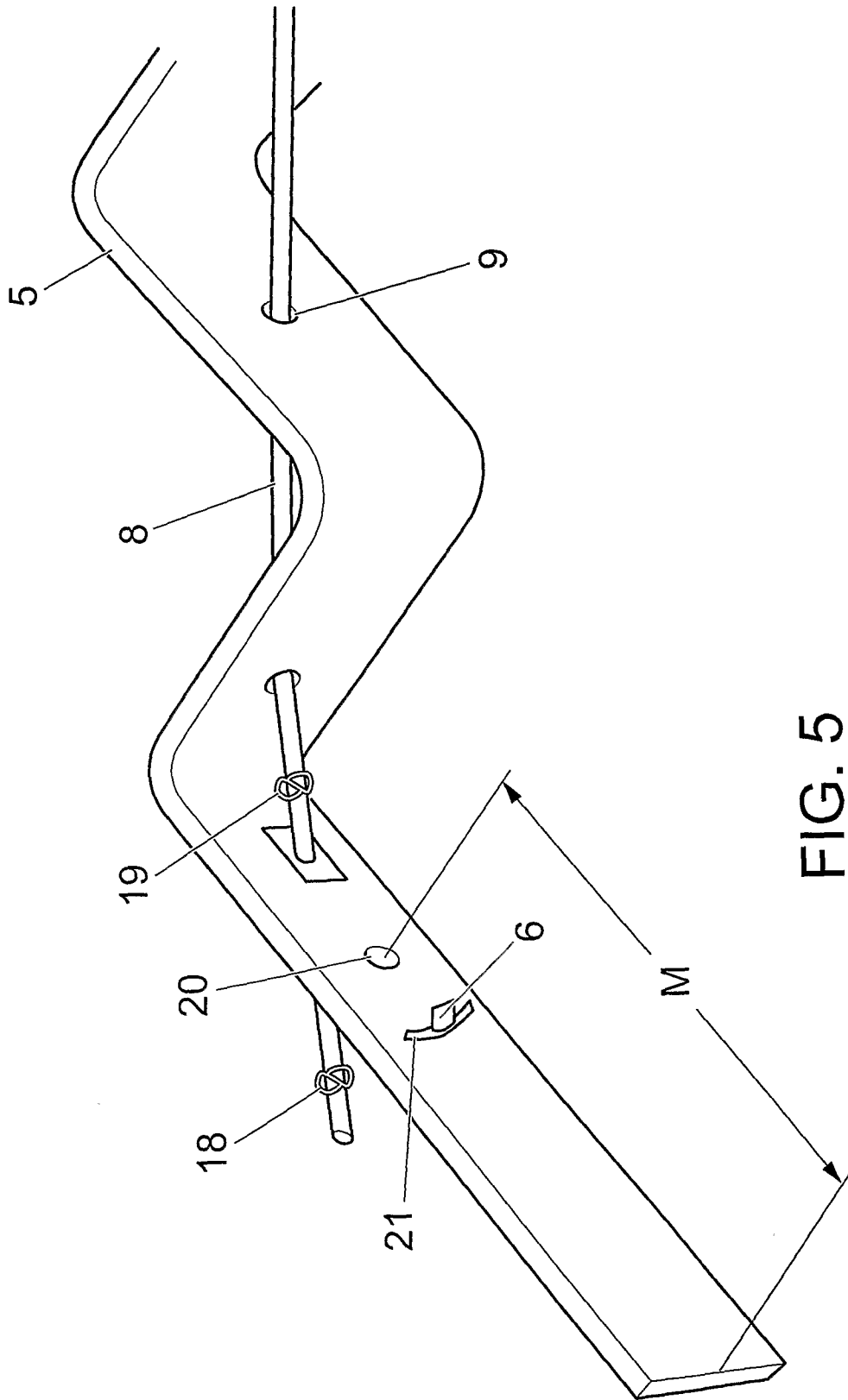


FIG. 5

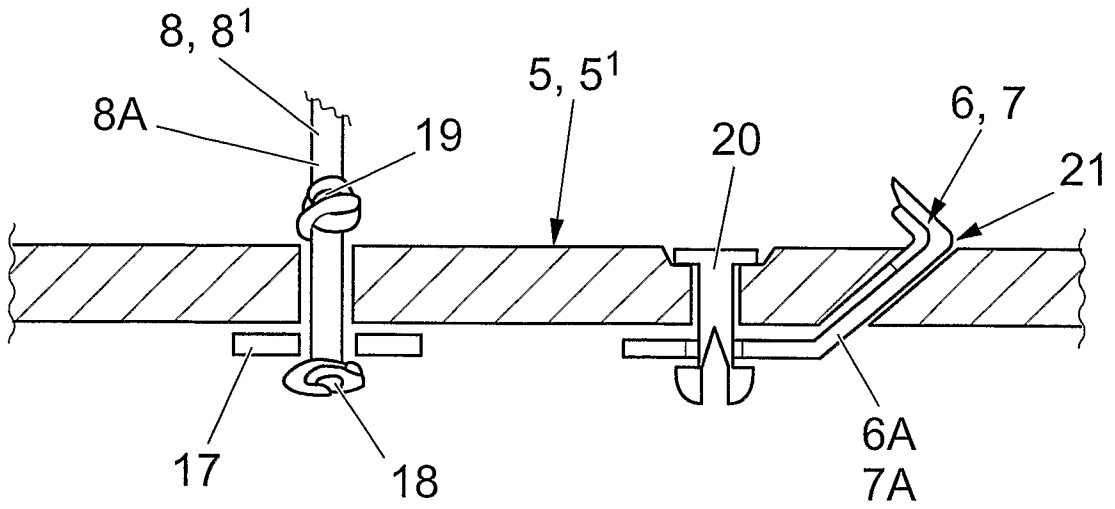


FIG. 6

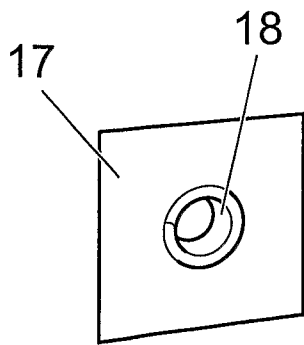


FIG. 7

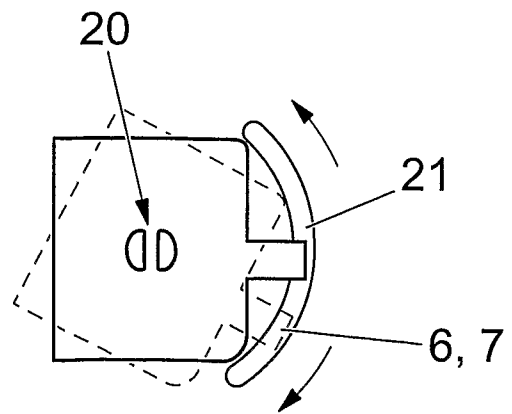


FIG. 8

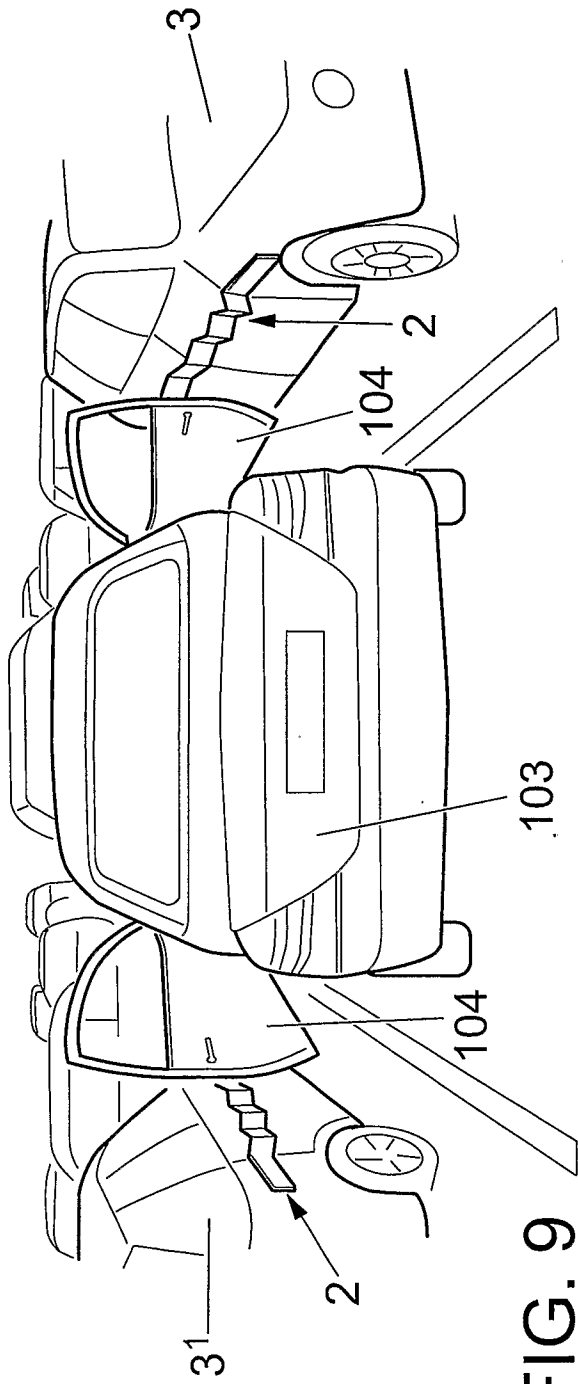


FIG. 9

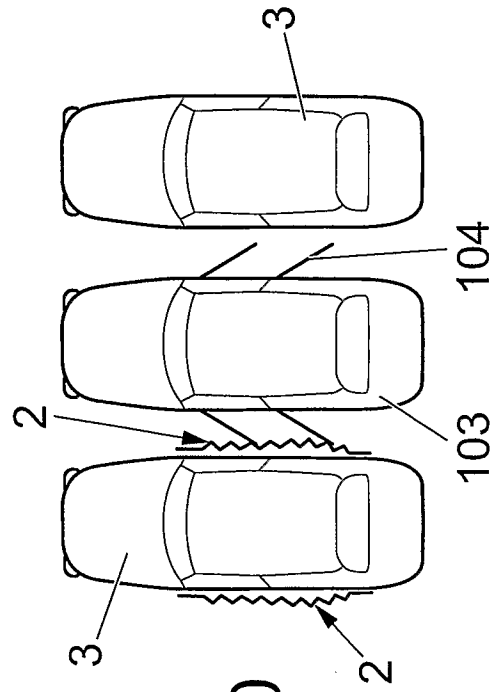


FIG. 10

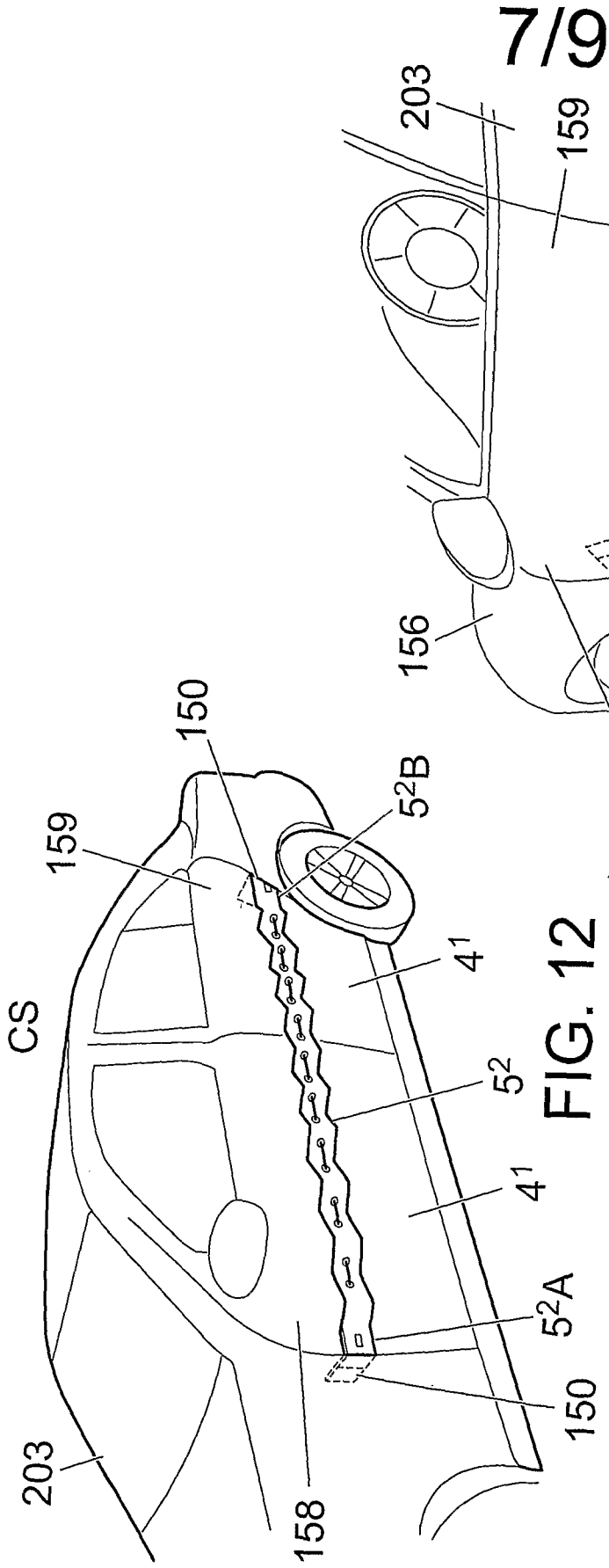


FIG. 12

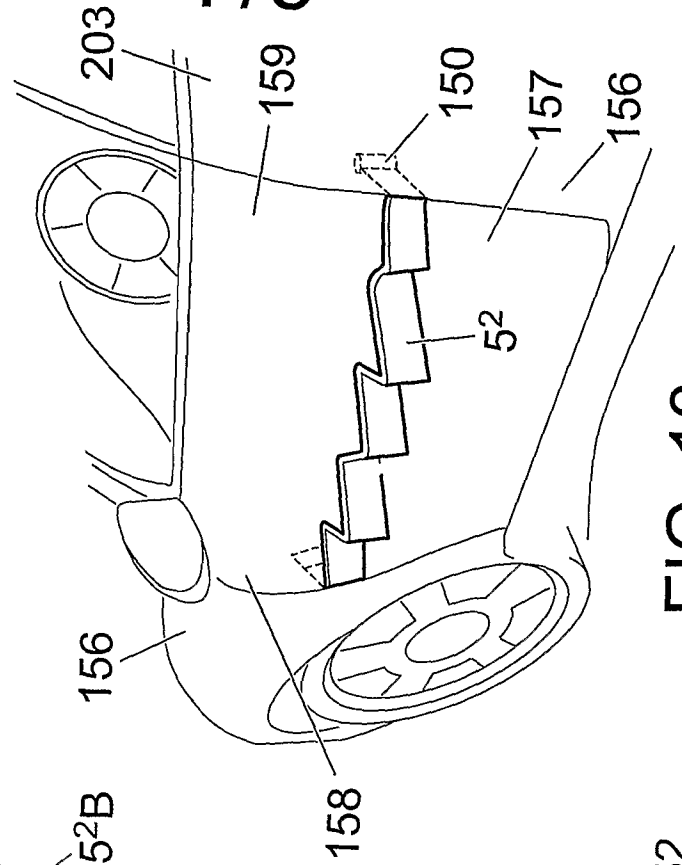


FIG. 13

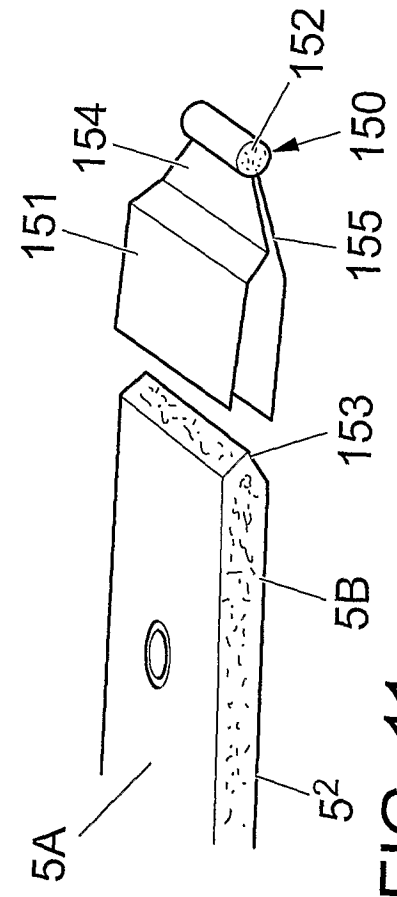


FIG. 11

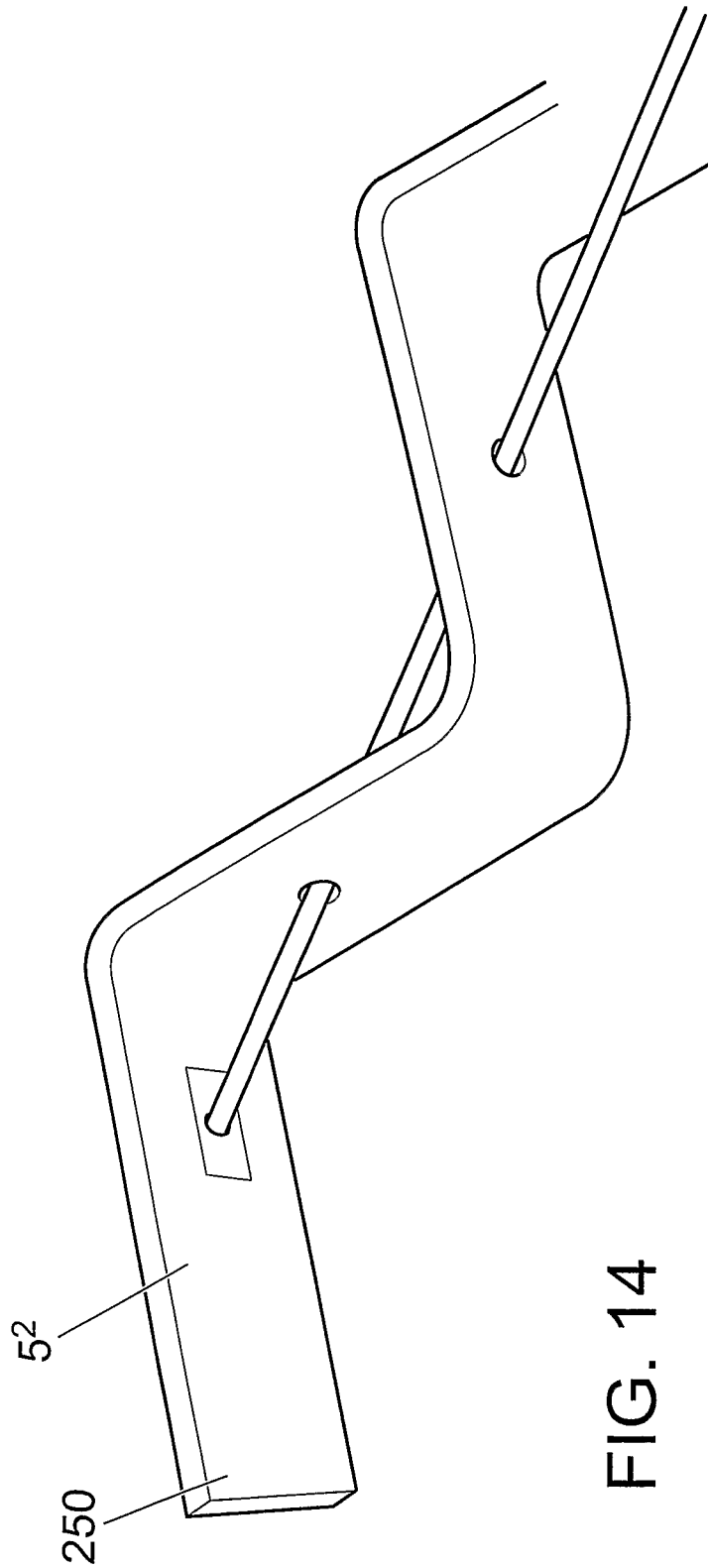
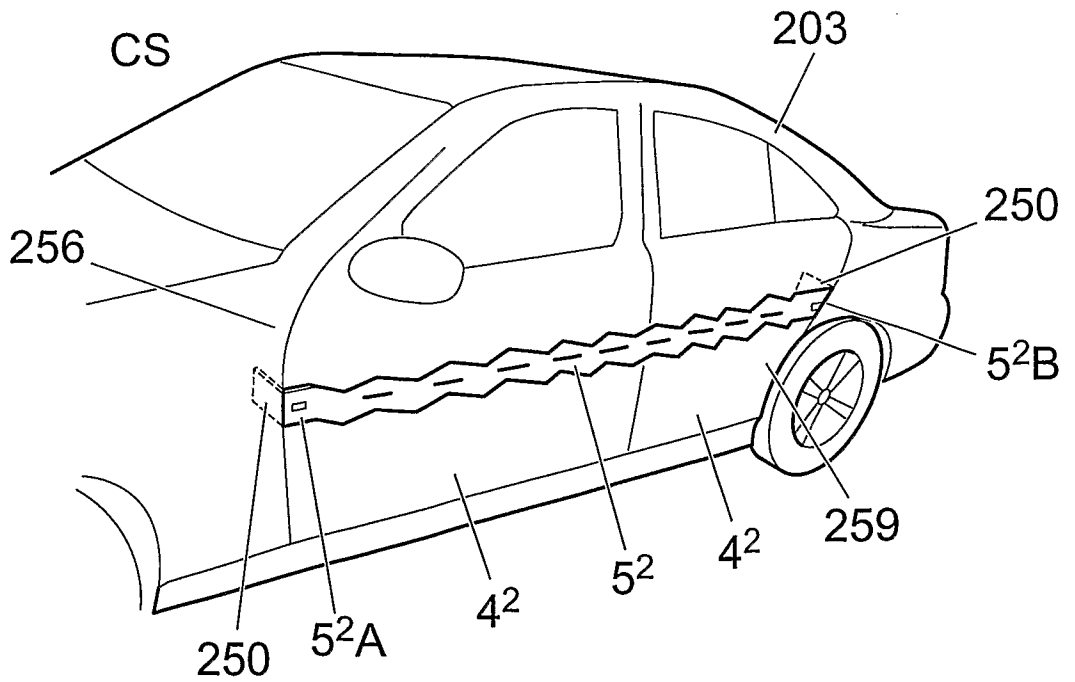
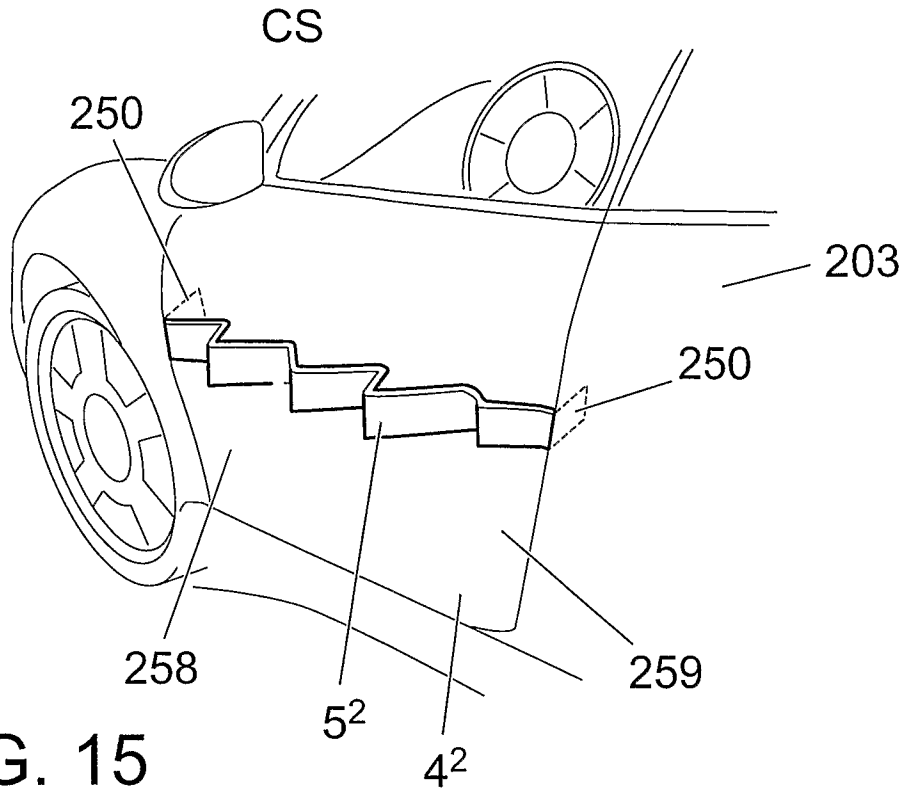


FIG. 14

9/9



INTERNATIONAL SEARCH REPORT

International application No.
PCT/SE2008/051185

A. CLASSIFICATION OF SUBJECT MATTER

IPC: see extra sheet

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)

IPC: B60R

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

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

EPO-INTERNAL, WPI DATA, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5184857 A (HAWKINS), 9 February 1993 (09.02.1993) --	1-9
A	US 4002363 A (JAMES), 11 January 1977 (11.01.1977) --	1-9
A	US 5312145 A (MCNEIL), 17 May 1994 (17.05.1994) -- -----	1-9

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search
15 January 2009

Date of mailing of the international search report
28-01-2009

Name and mailing address of the ISA/
Swedish Patent Office
Box 5055, S-102 42 STOCKHOLM
Facsimile No. +46 8 666 02 86

Authorized officer
Hans Nordström / JA A
Telephone No. +46 8 782 25 00

International patent classification (IPC)**B60R 13/04** (2006.01)**B60R 19/42** (2006.01)**Download your patent documents at www.prv.se**

The cited patent documents can be downloaded at www.prv.se by following the links:

- In English/Searches and advisory services/Cited documents (service in English) or
- e-tjänster/anförda dokument (service in Swedish).

Use the application number as username.

The password is **FOVWSUQFDA**.

Paper copies can be ordered at a cost of 50 SEK per copy from PRV InterPat (telephone number 08-782 28 85).

Cited literature, if any, will be enclosed in paper form.

INTERNATIONAL SEARCH REPORT

01/11/2008

International application No.

PCT/SE2008/051185

US	5184857	A	09/02/1993	NONE
US	4002363	A	11/01/1977	NONE
US	5312145	A	17/05/1994	NONE