

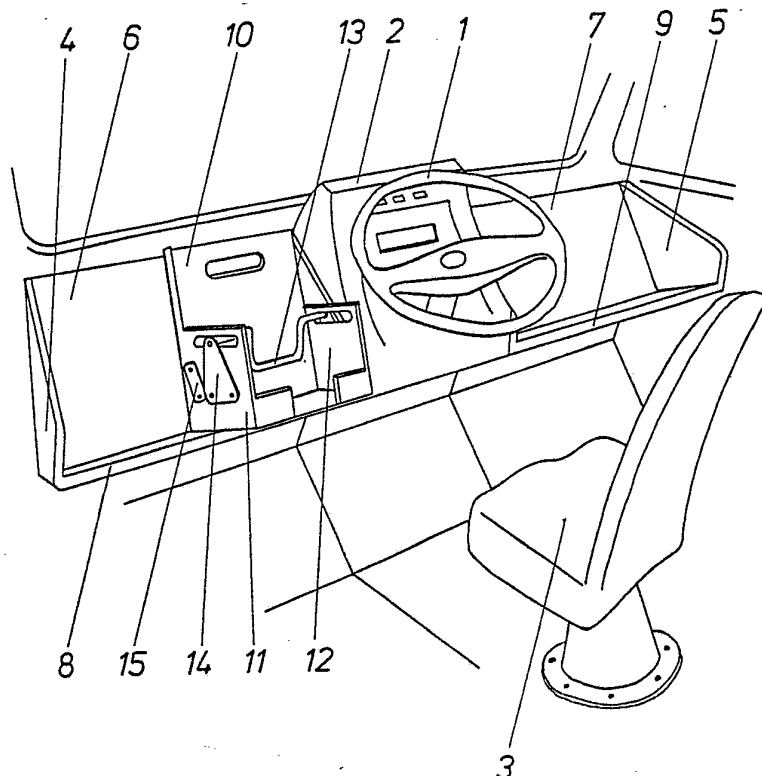


INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification³ : B60K 37/00; B60R 7/06	A1	(11) International Publication Number: WO 83/ 01602 (43) International Publication Date: 11 May 1983 (11.05.83)
(21) International Application Number: PCT/DK82/00100 (22) International Filing Date: 9 November 1982 (09.11.82) (31) Priority Application Number: 4961/81 (32) Priority Date: 10 November 1981 (10.11.81) (33) Priority Country: DK (71) Applicant (for all designated States except US): A/S DABILFA [DK/DK]; Amaliegade 15, DK-1256 København K (DK). (72) Inventor; and (75) Inventor/Applicant (for US only) : MOSEGAARD, Lars [DK/DK]; Dronningensgade 46, 3.tv., DK-1420 København K (DK). (74) Agent: LARSEN & BIRKEHOLM A/S SKANDINAVISK PATENTBUREAU ; Niels Hemmingsens Gade 32, DK-1153 København K (DK).		(81) Designated States: AT, AT (European patent), AU, BE (European patent), CH, CH (European patent), DE, DE (Auxiliary utility model), DE (European patent), FI, FR (European patent), GB, GB (European patent), NL, NL (European patent), NO, SE, SE (European patent), US. Published <i>With international search report.</i> <i>In English translation (filed in Danish).</i>

(54) Title: SHELF AND CASSETTE ARRANGEMENT FOR AUTOMOBILES**(57) Abstract**

In a shelf and cassette arrangement for use in automobiles for postal deliveries, where the automobile has been provided with transverse, trough-formed recesses on each side of the instrument panel, the recesses are formed with an inclined wall or plate (6, 7) which is forwardly-sloping in relation to the direction of travel, under which there is disposed a support member (8, 9), thus providing room for at least one removable cassette (10), said cassette having a swingable handle (13) capable of swinging freely inwards in the cassette (10) around a substantially horizontal axis. The handle (13) is suspended in elongated holes by means of triangular support elements (14), so that the handle can be displaced substantially parallel with the bottom plate of the cassette. The handle's own weight is used to secure the items of mail which are to be delivered. Achieved herewith is a shelf and cassette arrangement which renders the items of mail to be delivered easy to see and easily accessible, while still securing said items so that they do not come into disorder while the automobile is being driven.



FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AT	Austria	GA	Gabon	MR	Mauritania
AU	Australia	GB	United Kingdom	MW	Malawi
BB	Barbados	HU	Hungary	NL	Netherlands
BE	Belgium	IT	Italy	NO	Norway
BG	Bulgaria	JP	Japan	RO	Romania
BR	Brazil	KP	Democratic People's Republic of Korea	SD	Sudan
CF	Central African Republic	KR	Republic of Korea	SE	Sweden
CG	Congo	LI	Liechtenstein	SN	Senegal
CH	Switzerland	LK	Sri Lanka	SU	Soviet Union
CM	Cameroon	LU	Luxembourg	TD	Chad
DE	Germany, Federal Republic of	MC	Monaco	TG	Togo
DK	Denmark	MG	Madagascar	US	United States of America
FI	Finland	ML	Mali		
FR	France				

SHELF AND CASSETTE ARRANGEMENT FOR AUTOMOBILES

This invention relates to a shelf and cassette arrangement for use in automobiles for postal deliveries,
5 where the automobile has been provided with transverse, trough-formed recesses on each side of the instrument panel.

With the automobile-based delivery of post and similar items of mail, various kinds of aids are used
10 in the form of boxes or holding elements, such elements being arranged for mounting within the reach of the driver so that he can quickly find out the next address to which he must deliver post or similar
15 items of mail. If postal deliveries with automobiles is to be efficient and speedy, the items of mail must be placed in an easy-to-see and easily accessible manner, so that the driver can concentrate on his driving while still having a full view over the deliveries and can easily take hold of the next item or
20 items of mail to be delivered.

Automobiles are often provided with transverse, trough-formed recesses or shelves on each side of the
25 instrument panel, into which one can place various articles, and such recesses or shelves can naturally also be used if such a vehicle is to be used for postal deliveries. However, by having the post lying in such recesses, disorder is easily created among
30 the items for delivery which must lie loosely or in smaller bundles, the reason being that the items of mail easily slide in between one another while the automobile is being driven.

35 The object of the invention is to provide a shelf and



cassette arrangement which fulfils the demand for an easy-to-see layout and accessibility of the deliveries, e.g. items of mail, which are to be brought out and delivered to different addresses.

5

This is achieved by forming the arrangement as presented in claim 1. By using one or more cassettes positioned on shelves in front of and on each side of the driver, said shelves being mounted as instrument
10 panels on each side of the actual instrument panel, the driver is given a clear view over those items of mail which have still to be delivered, while at the same time the items are secured by the swingable handle and thus remain standing in the cassette during
15 the drive, also even though this is taking place on an uneven road. Moreover, the removable cassettes provide the driver with the possibility of being able to take the empty cassettes in with him when he has to collect the post he is to deliver, and either fill
20 them up or exchange them for filled cassettes.

By forming the cassette as presented in claim 2, one achieves that the handle, due to its own weight and special suspension, always slides down towards the
25 back wall because the cassette is positioned up against the inclined, forwardly-sloping wall in one of the transverse recesses. The items for delivery are hereby automatically secured regardless of their thickness and number, thus rendering it unnecessary
30 to bundle them up. By forming the cassette as presented in claim 3, one ensures that the handle is always moved perpendicular to the cassette's side pieces as a kind of parallel motion, in that the handle is forced to move in an elongated hole in each side, so
35 that the handle in both sides always finds itself at



the same place in the elongated holes.

By forming the cassette as presented in claim 4, one achieves that the special movement and suspension can
5 be locked as soon as one attempts to lift the cassette by means of the handle. One can herewith also lock the point of engagement of the handle in the cassette in any given position according to requirements, determined by the weight and the positioning
10 of the items of mail in the cassette.

In the following the invention will be explained more closely with reference to the accompanying drawings which show a preferred embodiment of the invention,
15 and where

fig. 1 shows an example of a cassette and its position in a shelf arrangement according to the invention, and
20

fig. 2 shows a cassette's construction in closer detail.

In fig. 1 will be seen a driver's cab for an automobile of the type where a pivotable seat 3, a steering wheel 1 and an instrument panel 2 are arranged around the centre line of the vehicle, so that the driver can climb down via the right-hand door or the left-hand door as required. On both sides of the instrument panel 2 there is thus room to mount a shelf arrangement 4 and 5 which, in relation to the normal direction of travel, comprises forwardly-sloping back plates 6 and 7 and bottom members 8 and 9, which together form trough-formed recesses in which
35 cassettes can be placed. As an example in fig. 1 one

cassette 10 is shown positioned to the left of the instrument panel 2. The cassette is an upwardly open container with two side walls or side pieces 11 and 12, said side pieces having a slot in which a freely
5 pivotable handle is mounted. In fig. 1 the cassette is shown in empty condition. The handle 13 can be used to carry the cassette 10 to and from the automobile, while at the same time the freely pivotable handle can also serve by virtue of its own weight to
10 hold the deliveries or similar items of mail in place in the cassette in an easily accessible and easy-to-see manner, in that the handle functions as a kind of letter holder.

15 Fig. 2 shows in closer detail how a cassette can be arranged, in that it comprises a back wall 16, a bottom 30, two side pieces 11 and 12 and a pair of smaller front plates 28 and 29. As shown in the drawing, the back wall 16 can be made higher than the
20 side pieces 11, partly so that it comprises a support for the items for delivery which, for example, are placed vertically and against the back wall, and partly to provide the possibility for a carrying or suspension hole 17.

25 The two side pieces of the cassette are provided with two elongated holes 27 which are substantially parallel with the bottom 30, and in which the handle 13 is inserted in a kind of parallel guide. The handle
30 13 consists of a shaped rod, for example a metal rod or tube which is bent or in another manner formed as a crank. The two ends of the handle pass through the two elongated holes in the two side pieces 11 and 12 and are pivotably mounted at each side in a triangular
35 support piece 14 by means of a bearing 23 or sim-



ilar element. The arrangement is for the remainder the same, but naturally laterally reversed when looking in towards the cassette's side pieces from the outside. The triangular support piece 14 is movably mounted in
5 two curved slots 19 and 24. The first slot 19 also houses a connection piece 22 which is pivotably coupled together with the triangular support piece 14 by means of a stud 31. The connection piece is also pivotably secured to a coupling arm 15 which is firmly
10 connected to a rotatable spindle 18. Since there is a coupling arm 15 on each side of the cassette it is thus ensured that the mechanisms on both sides of the cassette always follow one another. The top side of the connection piece 22 is moreover provided with a
15 tooth gearing 21 capable of engaging with a corresponding tooth gearing 20 in the upper edge of the curved slot 19. A connection piece 22 thus slides into or is guided into the curved slot 19 in each side piece.

20

The second curved slot 24 which is formed in each side piece has a stud element 25 which with a roller or a similar member can run inside the curved slot 24, in that the stud element 25 is secured to the
25 triangular support piece 14..

When the cassette is empty, as shown in fig. 2, the weight of the handle and the triangular support pieces 14 will force the connection piece 22 downwards, so that the toothed gearing 20 and 21 are
30 not in engagement with each other, but the connection piece 22 can slide on the smooth side of the curved slot 19. The curved slot 19 lies on a circular arc which has its centre in the axis of the rotatable
35 spindle 18, and the curved slot 24 also lies on a



circular arc but with its centre 26 lying at the same height as the spindle 18. The two circular arcs have the same radius. The handle can thus slide in the elongated holes 27 as a kind of parallel guide, i.e., the handle will always stand at right angles to the side surfaces 11 and 12. When the cassette is lifted by the handle 13, the toothed gearing 21 immediately engages with the toothed gearing 20 in the curved slot 19, and the handle can no longer be displaced in the elongated holes 27, thus enabling the cassette to be transported without it tipping over. When one desires to transport the cassette by carrying it by the handle 13, it is possible by shifting the handle in the elongated holes 27 to get the handle to remain in any desired position in the holes 27.

When the cassette is placed in an inclined position, as shown in fig. 1, due to its own weight the handle will slide towards the back wall 16 and can here secure the items for delivery which are placed up against the back wall.



C L A I M S

1. Shelf and cassette arrangement for use in automobiles for postal deliveries, where the automobile has been provided with transverse, trough-formed recesses on each side of the instrument panel (2),
5 c h a r a c t e r i z e d in that the transverse recesses comprise a wall or plate (6, 7) which is inclined and forwardly-sloping in relation to the driving direction, under which there is disposed a support member (8, 9), and with room for at least one
10 removable cassette (10), said cassette having a swingable handle (13) capable of swinging freely inwards in the cassette around a substantially horizontal axis.
- 15 2. Shelf and cassette arrangement according to claim 1, c h a r a c t e r i z e d in that the cassette is in the form of an open box, the back wall (16) of the box and the bottom plate (30) being joined with side pieces (11, 12), and where the handle
20 (13) is suspended in elongated holes (27) substantially parallel with the bottom plate (30), so that the handle can be displaced parallel with said bottom plate.
- 25 3. Shelf and cassette arrangement according to claim 2, c h a r a c t e r i z e d in that the displacement of the handle is established by means of a rotatable transverse spindle (18) which runs through the side pieces (11, 12) and has two firmly attached
30 coupling arms (15), each provided with a connection piece (22) and coupled together with two handle support elements (14) provided with a stud (31),
that runs in an arcuate slot (19) in each



side piece together with a connection piece (22), so that the handle supporting element will follow the arcuate slot (19), and where a second stud (25), at a distance from the first-mentioned stud, follows a similarly arcuate slot (24) provided in each side piece, the handle (13) thus being pivotably secured to the two handle support elements (14).

4. Shelf and cassette arrangement according to claim 3, characterized in that the top side of the connection piece (22) is provided with a toothed gearing (21) which, when the cassette is lifted by means of the handle (13), is brought into engagement with a toothed gearing (20) in the arcuate slot (19), and hereby preventing the handle (13) from being displaced in the elongated holes (27) which carry the handle.

20



1/2

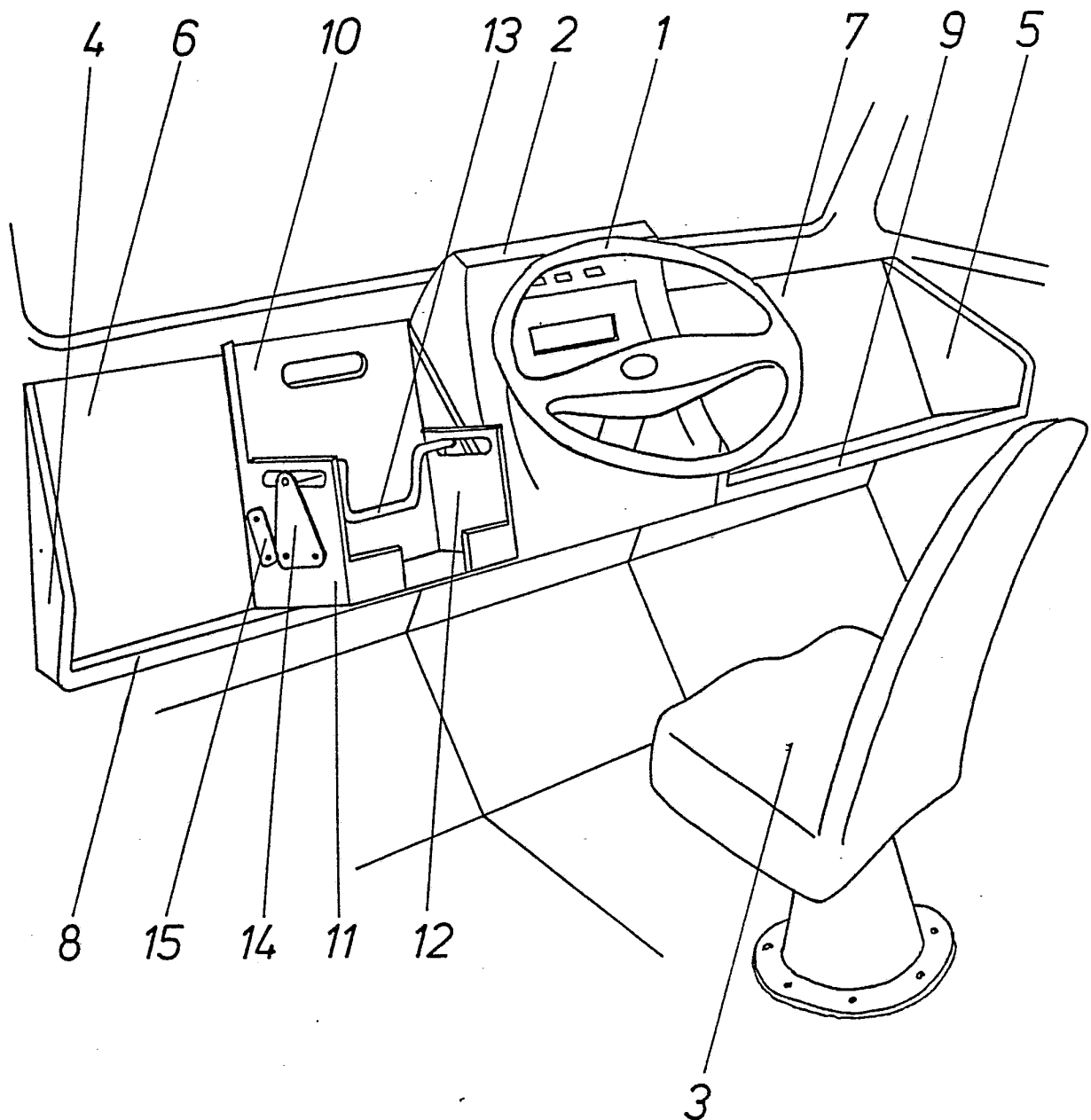
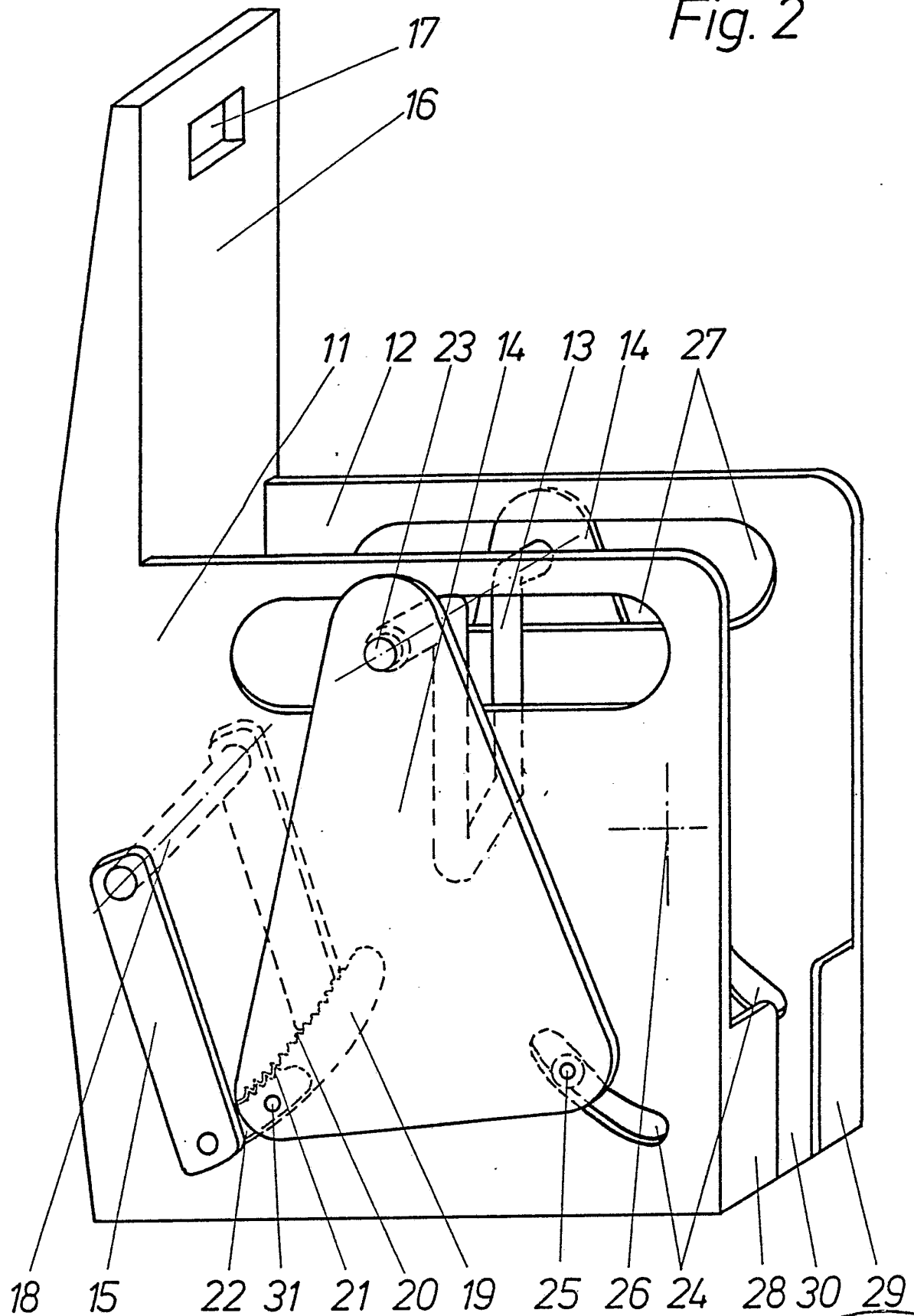


Fig. 1

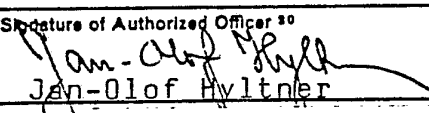
2/2.

Fig. 2



INTERNATIONAL SEARCH REPORT

International Application No PCT/DK82/00100

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) ³		
According to International Patent Classification (IPC) or to both National Classification and IPC 3		
B 60 K 37/00, B 60 R 7/06		
II. FIELDS SEARCHED		
Minimum Documentation Searched ⁴		
Classification System	Classification Symbols	
IPC 3	B 60 K 37/00, B 60 R 5/00, 02, 7/00, 04, 06, B 60 P 3/00, B 65 D 61/00, 91/00, 21/08, 25/26-/32 .../...	
Documentation Searched other than Minimum Documentation to the extent that such Documents are Included in the Fields Searched ⁵		
SE, NO, DK, FI classes as above		
III. DOCUMENTS CONSIDERED TO BE RELEVANT ¹⁴		
Category ⁶	Citation of Document, ¹⁴ with indication, where appropriate, of the relevant passages ¹⁷	Relevant to Claim No. ¹⁸
X	GB, A, 2 032 360 (FIAT AUTO SpA) 8 May 1980	1
X	GB, A, 2 057 980 (FIAT AUTO SpA) 8 April 1981	1
¹⁵ 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 document 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 "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		
IV. CERTIFICATION		
Date of the Actual Completion of the International Search ¹		Date of Mailing of this International Search Report ²
1983-01-20		1983-01-31
International Searching Authority ¹		Signature of Authorized Officer ²⁰
Swedish Patent Office		 Jan-Olof Hyltner

FURTHER INFORMATION CONTINUED FROM THE SECOND SHEET

II

Fields Searched (cont)

US C1 206:19.5, 216, 425; 108:42, 44, 45;
224:29; 180:90; 232:17, 27;
214:39; 220:94, 96;
296:37, 37.8, 37.12, 70;
312:61, 244, 245, 349, 350, 352.

V. ☐ OBSERVATIONS WHERE CERTAIN CLAIMS WERE FOUND UNSEARCHABLE ¹⁰

This international search report has not been established in respect of certain claims under Article 17(2) (a) for the following reasons:

1. ☐ Claim numbers because they relate to subject matter ¹² not required to be searched by this Authority, namely:

2. ☐ Claim numbers because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out ¹², specifically:

VI. ☐ OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING ¹¹

This International Searching Authority found multiple inventions in this international application as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims of the international application.

2. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims of the international application for which fees were paid, specifically claims:

3. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claim numbers:

4. ☐ As all searchable claims could be searched without effort justifying an additional fee, the International Searching Authority did not invite payment of any additional fee.

Remark on Protest

☐ The additional search fees were accompanied by applicant's protest.

☐ No protest accompanied the payment of additional search fees.