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Kessler et al.

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- (54) **OPENABLE AND CLOSABLE MOTOR VEHICLE WINDOW**
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**FOREIGN PATENT DOCUMENTS**

DE	2246337	4/1974	
DE	2432063	1/1976	
DE	2127207	* 6/1978	49/28
DE	2719955	11/1978	
DE	3034118	3/1982	
DE	3136746	6/1983	
DE	3528380	2/1987	
DE	3236631	3/1988	
DE	3712950	11/1988	
DE	3438050	4/1989	
GB	1347474	* 2/1974	49/28

(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

- (21) Appl. No.: **08/481,199**
- (22) Filed: **Jun. 7, 1995**

**Related U.S. Application Data**

(63) Continuation of application No. 08/060,906, filed on May 12, 1993, now abandoned.

**(30) Foreign Application Priority Data**

May 13, 1992 (DE) ..... 42 15 744

- (51) **Int. Cl.<sup>7</sup>** ..... **E06B 3/00**
- (52) **U.S. Cl.** ..... **49/506**; 49/28
- (58) **Field of Search** ..... 49/26, 27, 28, 49/506

**(56) References Cited**

**U.S. PATENT DOCUMENTS**

3,727,348	A	*	4/1973	Steinmann et al.	49/28
4,023,156	A	*	5/1977	Galvin	340/274 R
4,351,016	A	*	9/1982	Felbinger	49/28 R
4,458,445	A	*	7/1984	Sauer et al.	49/26
5,229,748	A	*	7/1993	Ehringer et al.	340/566
5,410,227	A	*	4/1995	Toyozumi et al.	49/26

**OTHER PUBLICATIONS**

Dr. Dan Russell, "Acoustics Animations", Acoustics and Vibrations Animations page, <http://WWW.gmi.edu>, 2001.

\* cited by examiner

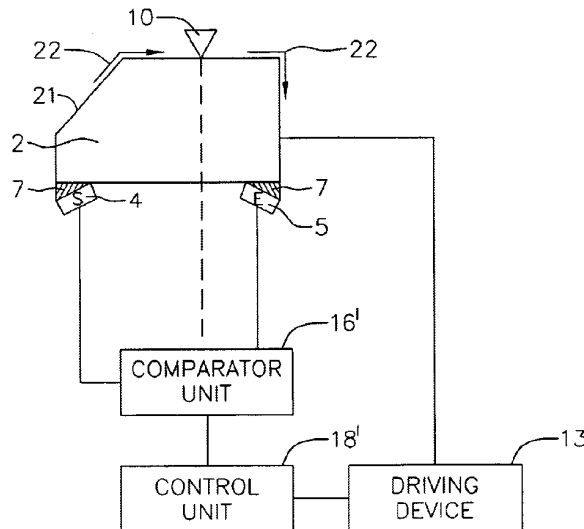
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**(57) ABSTRACT**

Device for restricting or controlling and regulating the movement of remote-controlled parts, more particularly parts of a vehicle bodywork as well as a process for operating the device. The device and process can be used with particular advantage as a collision protection for window winders, sunroofs, doors or flaps, more particularly in connection with electrical displacement devices for motor vehicles. The device is characterized by an actuator and a sensor which are mounted on a cohesive uninterrupted transmission path which is a constituent part of the closing surface area of the remote-controlled part and/or of the fixed part interacting therewith. The arrangement is selected so that a part of the energy supplied by actuator is converted into acoustic surface waves which can scatter over the transmission path and can be received by the sensor.

**20 Claims, 6 Drawing Sheets**



**UUSI, LLC**  
**Exhibit 2028**

**WEBASTO ROOF**  
**SYSTEMS, INC.**  
Petitioner  
v.  
**UUSI, LLC**  
Patent Owner

Case:  
IPR2014-00650  
Patent: 7,579,802

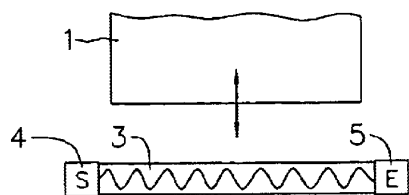


FIG. 1a

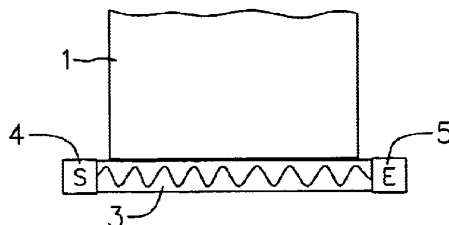


FIG. 1b

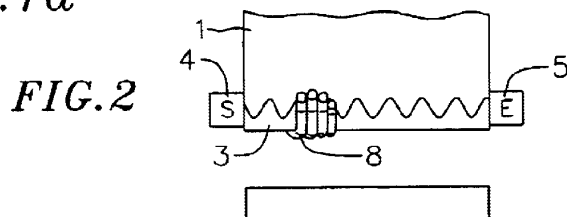


FIG. 2

FIG. 3a

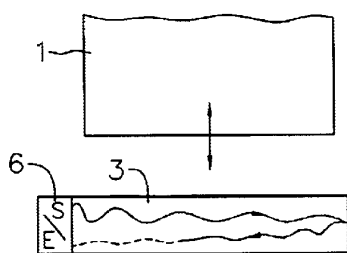


FIG. 3b

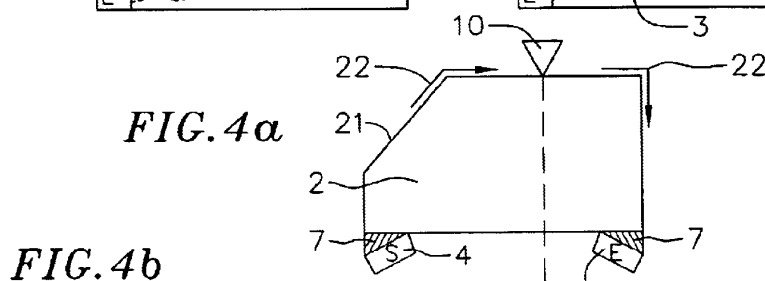
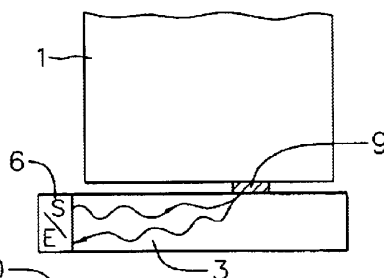


FIG. 4a

FIG. 4b

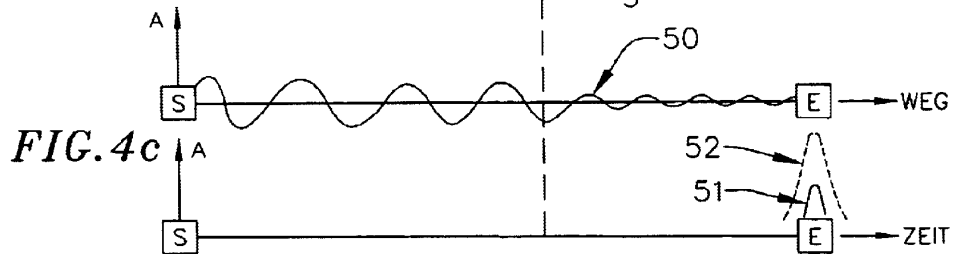


FIG. 4c

FIG. 1aa

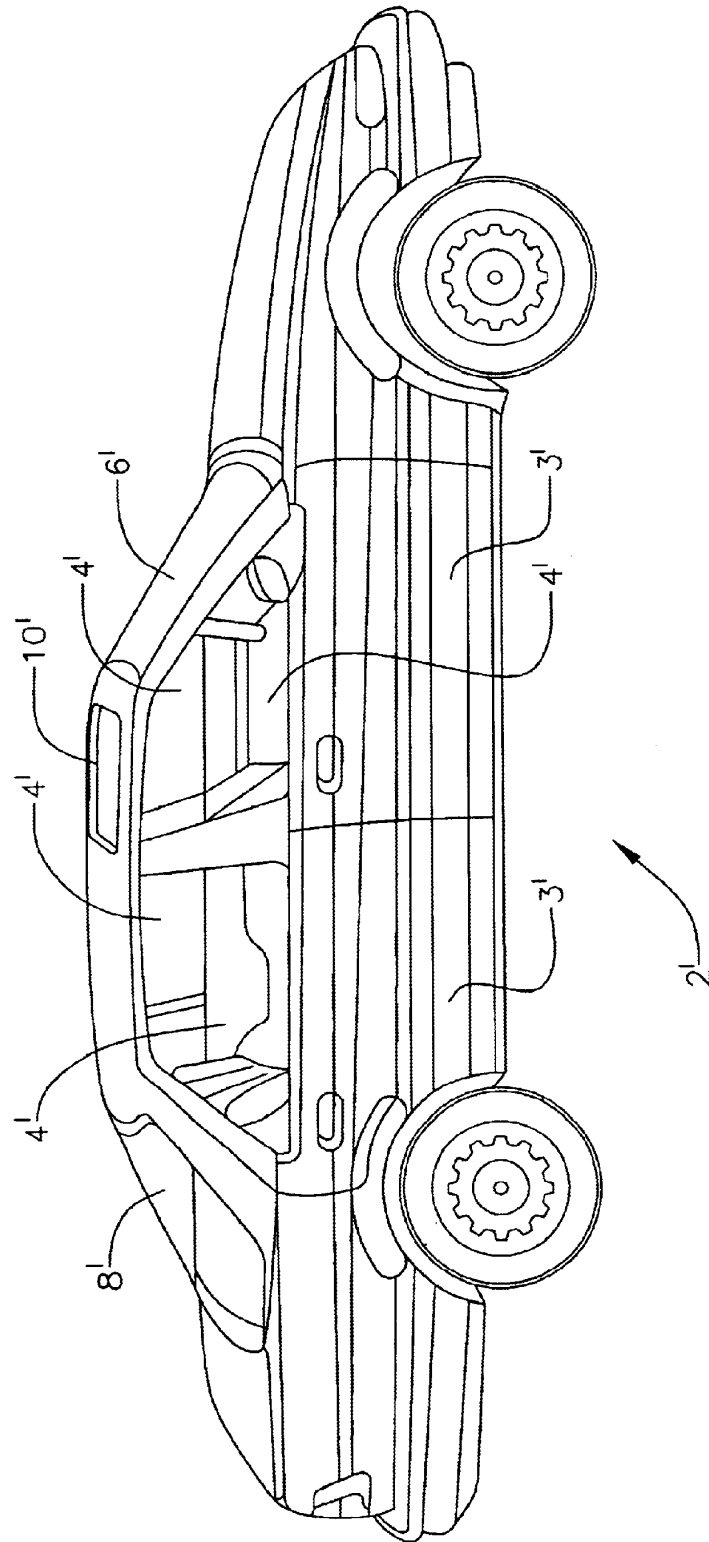
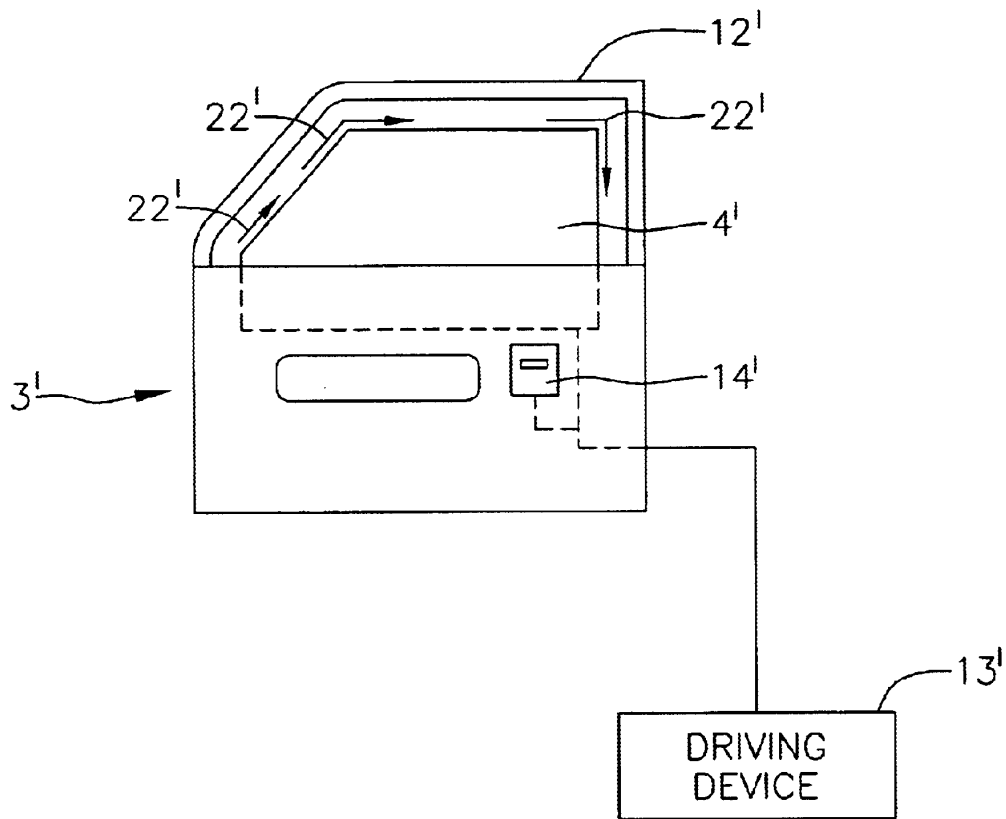
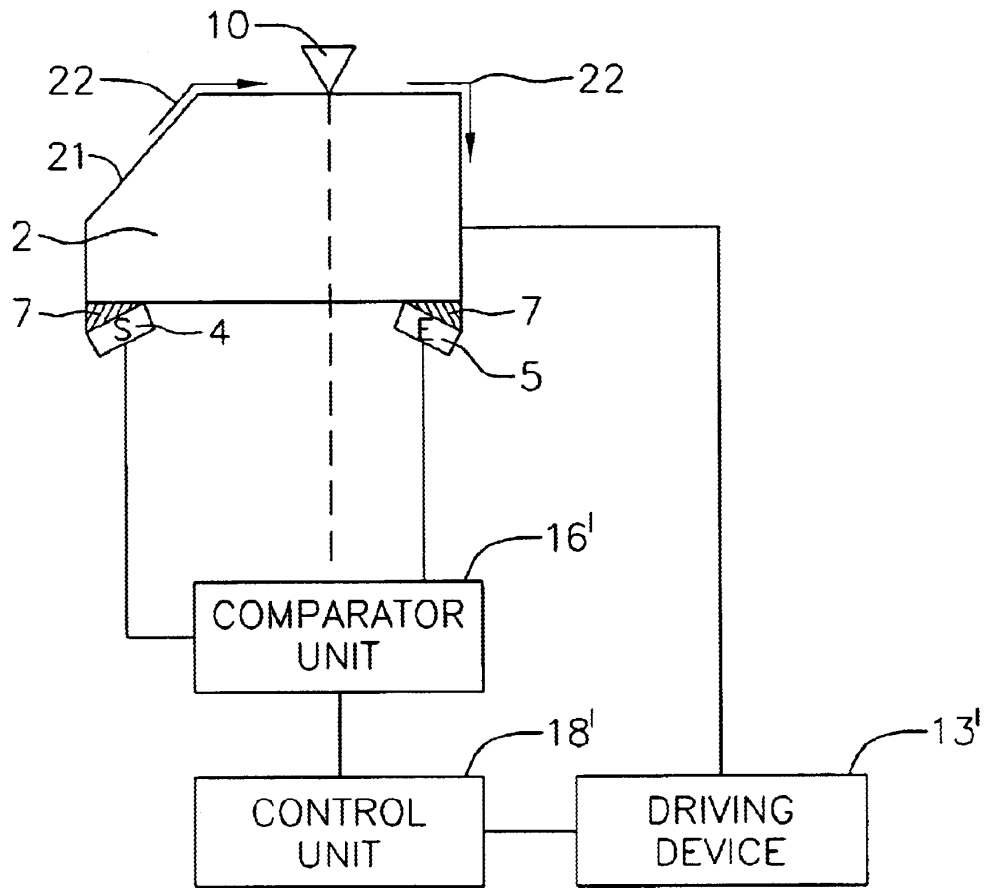


FIG. 1ab



U.S. 110

FIG. 4a'



U.S. 110

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