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[54]	WIPER BLADES, SPRING ELEMENTS AND ARTICLES INCLUDING SUCH SPRING ELEMENTS			
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Nov. 7, 1987 [GB] United Kingdom 8726140				
[52]	U.S. Cl			
[56]	References Cited			
U.S. PATENT DOCUMENTS				
	100 000 0 0	1000 7: 17		

190,236	3/1933	Lindhe	126/174
2,589,339	3/1952	Carson	15/250.40
2,677,143	5/1954	Blaney	15/250.06
2,797,428	7/1957	Wallis	15/250.36
3,131,414	5/1964	Wise	15/250.42
3,328,825	7/1967	Anderson	15/250.42
3 545 028	12/1970	Poland	15/250.36

#### FOREIGN PATENT DOCUMENTS

546549	9/1985	Australia .
0233504	1/1987	European Pat. Off
1077540	3/1960	Fed. Rep. of Germany .
1247161	8/1967	Fed. Rep. of Germany .
1247162	8/1967	Fed. Rep. of Germany .
1430332	1/1969	Fed. Rep. of Germany .
2830118	1/1980	Fed. Rep. of Germany .
2839587	3/1980	Fed. Rep. of Germany 15/250.12
820156	11/1937	France.
1476688	3/1967	France.
2404770	5/1974	France .
2437959	4/1980	France.
120587	6/1926	Switzerland .
222323	10/1924	United Kingdom .

1075927	7/1967	United Kingdom .
1425568	2/1976	United Kingdom .
1505232	3/1978	United Kingdom .
2127282	4/1984	United Kingdom .

887514 1/1962 United Kingdom .

#### OTHER PUBLICATIONS

German Publication-DE-U-74-17 777 (Mar. 27, 1975). German Publication-DE-U-85' 22 017 (Jul. 31, 1985). PCT Publication WO85/00207 (Jan. 17, 1985).

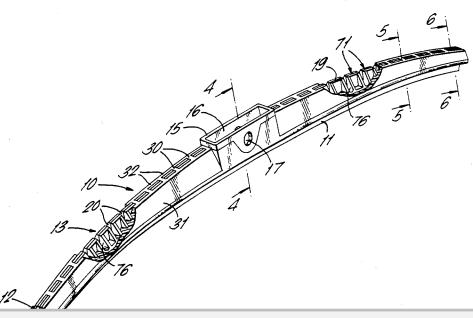
Primary Examiner-Frankie L. Stinson Attorney, Agent, or Firm-Beveridge, DeGrandi & Weilacher

#### **ABSTRACT** [57]

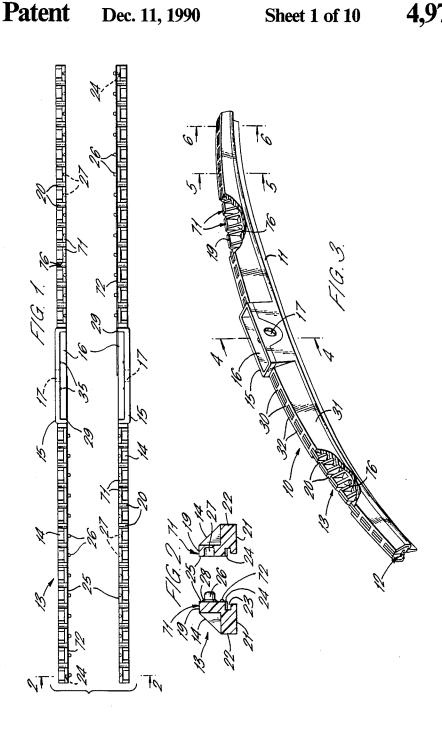
A wiper blade, e.g. for a windscreen of a motor vehicle, comprises an elongate flexible spine from which projects a blade for wiping a surface. The spine has pairs of opposed abutment faces spaced apart along at least a part of the length of the spine and which move toward and away from each other with flexing of the spine. Resilient biasing means are interposed between the opposed abutment faces so that, in use, when the wiper blade engages a surface which causes the wiper blade to be deformed from its natural configuration, the resulting deformation of the resilient biasing means assists in holding the wiper blade against the surface.

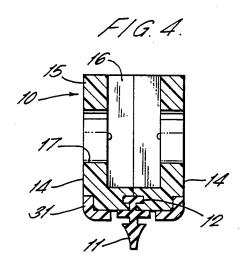
The invention also concerns a spring element and articles, e.g. a door closure, including the spring element which comprises an elongate flexible member. Pairs of opposed abutment faces are spaced apart along at least a part of the length of the member and which move toward and away from each other with flexing of the member. Resilient biasing means are also interposed between said opposed abutment faces so that, in use, when the spring element is deformed from its natural configuration, the resulting deformation of the resilient biasing means assists in urging the spring element to return toward its natural configuration.

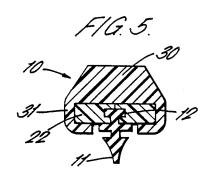
### 12 Claims, 10 Drawing Sheets

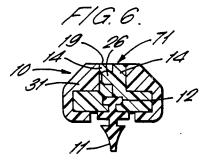


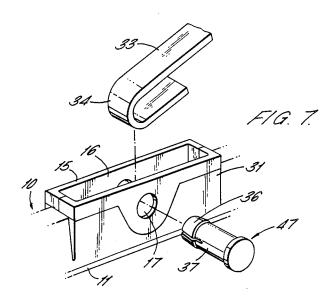


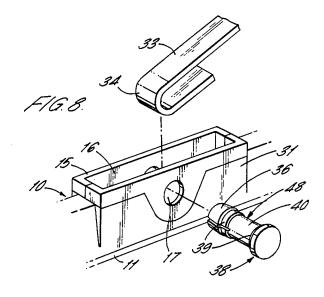




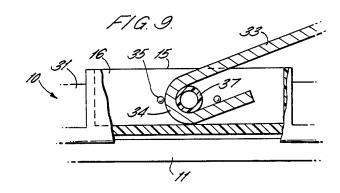


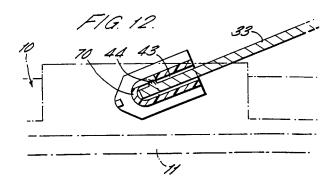


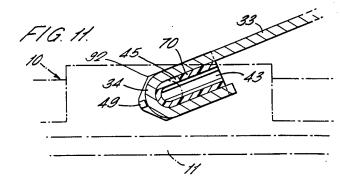












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