(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 412 281 A1**

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **90112394.3**

(22) Date of filing: **29.06.90**

(51) Int. Cl.5: **E01F 9/01**, B60Q 7/00, G09F 1/10

(30) Priority: **13.07.89 IT 2936**

(43) Date of publication of application: **13.02.91 Bulletin 91/07**

(84) Designated Contracting States: **BE DE DK ES FR GB GR LU NL**

(71) Applicant: **I.C.I.B. INDUSTRIALE COMMERCIALE IMMOBILIARE BOCCARA S.p.A.**
Vicolo Aldo Boccara, 5
Grassobbio, Bergamo(IT)

(72) Inventor: **Boccara, Flavio**
Vicolo A. Boccara 5
I-24050 Grassobbio (Bergamo)(IT)

(74) Representative: **Lecce, Giovanni**
STUDIO NORD BREVETTI Via Suardi, 4
I-24100 Bergamo(IT)

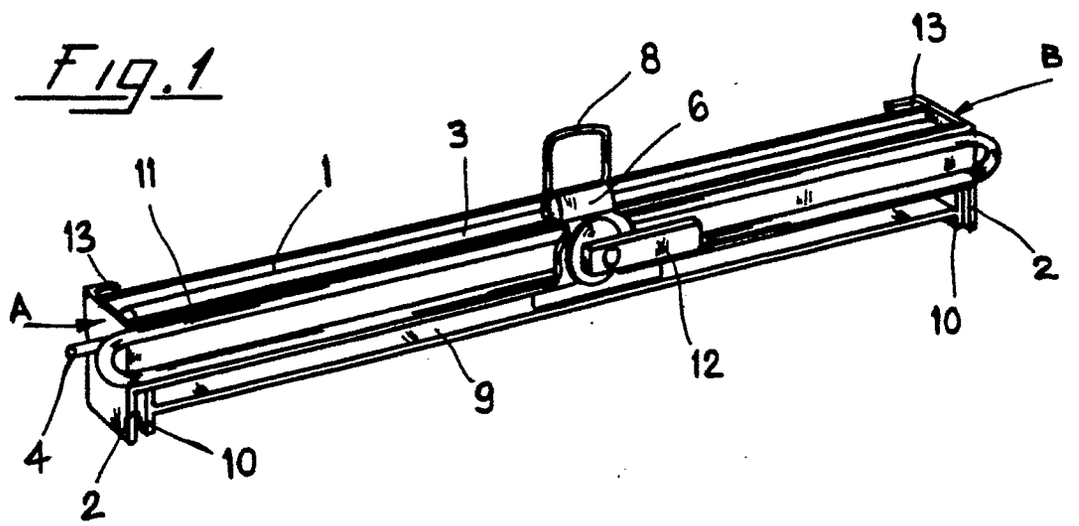
(54) Emergency sign with signal of selfwinding type for roads, construction site signals and the like.

(57) A description is given of a movable emergency sign for roads, construction site signals and the like, of very small dimensions and therefore not very bulky for placing on motor vehicles.

This sign is characterized by the fact that the elements of the supporting structure are of rotating, sliding and tip-up type, and extractable. The pedestal consists, in fact, of a base, generally of parallelepiped shape, from which is extracted in X shape a bar and, vertically, a self-winding signal on refractive fabric with rod anchorage.

Two alternatives are described, one with only one central rod and the other with two lateral rods. In the first case, the indicator signal is inserted on one side only, while, in the second case, it may be inserted on both sides.

Fig.1



EP 0 412 281 A1

EMERGENCY SIGN WITH SIGNAL OF SELF-WINDING TYPE FOR ROADS, CONSTRUCTIONS SITE SIGNALS AND THE LIKE.

Numerous type of movable emergency signs are at present known for road, construction site signals and the like, supplied to police forces, to armed forces, to fire brigades and to security service employees of buildings, construction sites etc.

These signs are used to signal particular emergency situations due to anomalous traffic or working conditions like interruptions and deviations for maintenance works road blocks, speed limitations, presence of suspended weights, of overhead electric cables etc.

Said signs are generally composed of a supporting stand and a rigid table, preferably of metal, on which the desired signal is inserted with stove enamelling or in refractive film.

Said table may be of triangular, round or square shape, depending on whether it must signal a dangerous situation or give a prescription (order, prohibition) or an indication, and may be applied in fixed or dismountable manner to the stand. This may be of folding or dismountable type, with frame in forged metal or with tubular metal frame of tripod shape, with possible lantern-holders with grill, which may be ballasted for greater stability.

All solutions based on the movable sign concepts described above are in themselves fairly practical and functional, but present the important problem of the considerable bulk of the stand-signal unit. This makes it necessary to use means of transport with very roomy luggage compartments, suitably modified to contain in orderly fashion the equipment to be carried to the place of use. These solutions almost always have poor stability in the presence of strong wind.

The object of the present invention is the construction of a movable emergency sign which offers the advantage of having, in the "closed" position, very limited dimensions, and of being easily transportable on normal motor vehicles without particular modifications or elaborations to the luggage compartment.

This sign is essentially composed of a base from which is extracted in X shape the pedestal, and, vertically, to the supporting plane, the signal of self-winding type on refractive fabric with rod anchorage. This solution also makes it possible to obtain, with respect to the signs at present known, an easier preparation for a rapid installation on the required place and an optimal stability even with strong wind.

The characteristics of the sign constructed according to the present invention will be evident from the following description of two of its constructive forms given, by way of unbinding example, with reference to the enclosed drawings, in which:

fig. 1 is the perspective view of the sign with only one central supporting rod and the signal wound;

fig. 2 is the perspective view of the same sign of figure 1 with pedestal opened in X shape, supporting rod erect and signal wound;

fig. 3 is the front view of the same sign as figures 1 and 2 with signal wound and anchored to the supporting rod;

fig. 4 is the front view of head A;

fig. 5 is the front view of head B with the parts of the wound signal anchored to the supporting rod and of the small locking plate of the winding roller shaft;

fig. 6 is the front view of head B with the part of the arrangement of the upper edge of the signal trimmed with metal in the special containing pockets;

fig. 7 is the front view of the sign with the self-winding signal unwound and fixed to the two lateral supporting rods.

With reference to figures 1 - 3, a description follows, as unbinding example, of the self-winding sign with a single central supporting rod. Said sign consists of a base 1 in metallic material, generally steel, having preferably, but not exclusively, the parallelepiped form, equipped on the two heads A and B with supporting feet 2 and suitable to contain, wound on a roller with the pins 4, the self-winding signal 3, forced to remain wound on said roller by a spring system of known type, not indicated in the drawings.

On the free end of said signal a trimming 5 is provided con taining a metal section which serves to maintain the signal taut in opening phase and to support a suitable anchoring device 6.

Said device is fixed with rivets to the abovementioned trimming with section by means of a small plate 7 and is equipped with an extraction eyelet 8.

Under the base 1 is provided, integral with same, a movable bar 9, preferably, but not exclusively, with metal section, generally steel, equipped on the two ends with supporting feet 10. Said bar, with sign closed, takes up a parallel position to the abovementioned base, locked by a self-locking spring-device of known type which makes it possible, when rotated in the plane forming with the base an X-shaped pecestal with arms at 9 °, to keep it locked also in open position.

On one of the larger sides of said base is arranged, in central position with respect to heads

A and B, a supporting metal rod, preferably, but not exclusively, of tubular type, of lozenge shape, with parallel sides.

When the sign is in closed position (fig. 1), said rod is arranged parallelly to the abovementioned side of the base, locked by the device with rotating lever 12. When the sign is in open position (figs. 2 and 3), it is arranged in vertical direction, locked by said rotating device.

To switch from the first to the second position, slacken said rotating device, slide it to the end of the rod, rotating it in upward direction, then refix it with said rotating device. At this point, extract, pulling it up by means of the eyelet 8, the self-winding signal 3, which remains locked in open position after connecting the anchoring device 6 on the upper end of the supporting rod 11. At this point the sign is ready to be placed for use.

In figures 4 and 5 are shown the preferred, but not exclusive, solutions for the fixing of the pin 4 of the roller of the self-winding signal 3 on heads A and B of the base 1. After positioning said roller in such a way that the trimming with metal section 5 faces, as indicated in the figure, the interior of said base, insert the first pin 4 in the groove 14 of head B. Then fix said second pin applying, for example, a small plate 15 equipped with through-hole calibrated for the pin, which may be fixed to the abovementioned heads with the screws 19.

Figure 6 shows some details relating to the methods of positioning, along one side of the base, the free end of the signal comprising the trimming with section 5, when the sign is in closed position. At the two heads A and B, on the side of the base opposite that on which the supporting rod 11 is arranged, two pockets 13 are provided in which the abovementioned free end of the signal may be inserted pulling the eyelet 8 downwards.

As may be seen, the structure described above refers to a self-winding emergency sign which provides the indicator signal on only one side, the other side being affected by the central supporting rod and therefore not fully utilizable to carry the signal.

A variant of the abovementioned sign consists of a second self-winding sign, shown, as unbinding example, in figure 7. Said second sisng provides two lateral supporting rods 21 and may have an indicator signal 3 with the indication shown on sides.

Said rods are positioned near heads A and B and are preferably, but not exclusively, in extractable metal tubular section. They are locked in horizontal or vertical position by the devices with rotating lever 22.

At the two ends of the trimming with metal section 5 are arranged, in suitable position, two anchoring devices 16 with relevant extraction eyelets 18, which make it possible to fix the unwound signal on the corresponding supporting rods 21.

For the other parts the references shown on the example of sign with a single central rod apply.

The province of the present patent is not excaped changing the aesthetic and/or constructive characteristics of the various elements which compose the two proposed signs, e.g. the base, the movable bar, the supporting rods of the signal, the locking devices of the rods, the anchoring devices of the sig nal, the fixing devices of the pins etc., providing said sign is of refoldable type, and, in the closed and open position, has the position shown in figures 1, 2, 3 and 7, with the self-winding signal arranged inside the structure.

Claims

1) Movable emergency indicator sign for road, construction site signals etc., comprising a self-winding indicator signal on refractive fabric and suitable means to construct the pecestal, the support and the anchorage of said indicator signal, characterized by the fact that said means are of rotating, sliding and tip-up type, and extractable, and make it possible to obtain a closed structure of extremely limited dimensions in which said indicator signal is positioned.

2) Movable emergency indicator sign according to claim 1, characterized by the fact that said means to construct the pedestal consist of a base (1), substantially of parallelepiped shape, equipped on the ends with supporting feet (2) and a bar (9) in metal section, also equipped on the ends with supporting feet (10), connected at the foot to the abovementioned base and rotating round same on central pin to form a cross-arrangement of the arms, a spring-device self-locking said bar (9) in both conditions of extension with respect to the base (1) and in alignment position to same.

3) Movable emergency indicator sign according to claims 1 and 2, characterized by the fact that said means to construct the support of said signal comprise a central metal rod (1) of tubular type with lozenge shape and parallel sides and a device (12) which makes it possible to fix said rod in horizontal and vertical position, the latter being formed by slip along the rear wall of the base (1) of the abovementioned rod up to one of the ends and subsequent tip-up of same.

4) Movable emergency indicator sign according to claims 1 to 3, characterized by the fact that said means to form the anchorage of said signal in unfolded or open position comprise the device (6) provided on the trimming (5) and insertable on the upper end of said central rod fixed in vertical

position.

5) Movable emergency indicator sign according to claims 1 to 4, characterized by the fact that said indicator signal is inserted on only one side of the fabric.

6) Movable emergency indicator sign according to claims 1 and 2, characterized by the fact that said means to form the support of said signal comprise two lateral rods (21), in extractable tubular metal section, and two devices (22) which make it possible to fix said rods in horizontal and vertical position.

7) Movable emergency indicator sign according to claims 1, 2 and 6, characterized by the fact that said means to form the anchorage of said signal in unfolded or open position comprise the devices (16) provided on the trimming (5) and insertable on the upper ends of said lateral rods fixed in vertical position.

8) Movable emergency indicator sign according to claims 1, 2, 6 and 7, characterized by the fact that said indicator signal is inserted on both sides of the fabric.

Fig.1

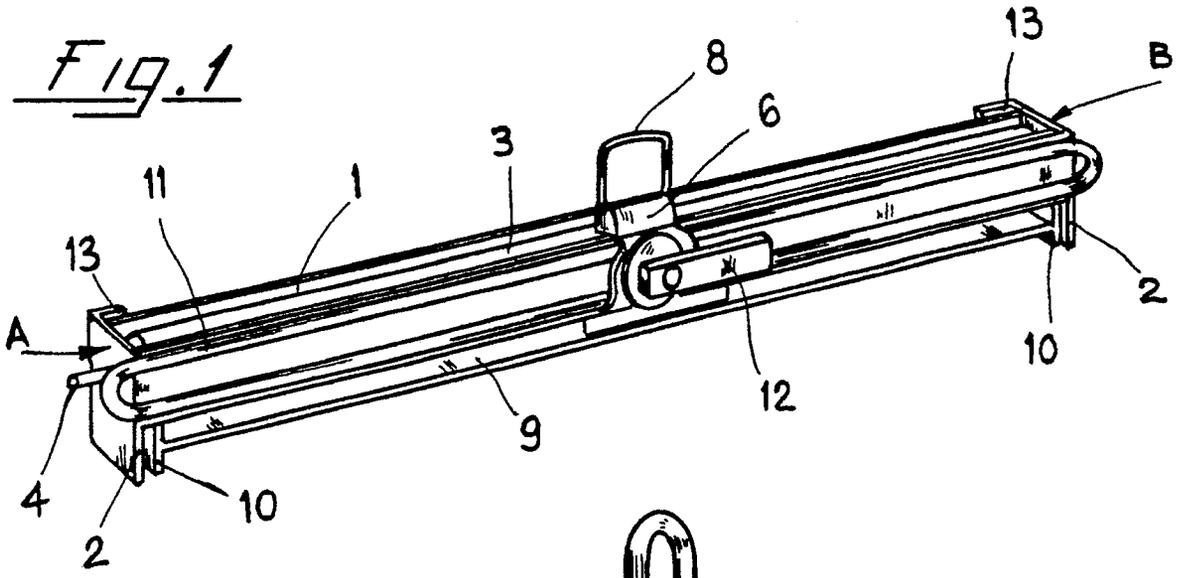
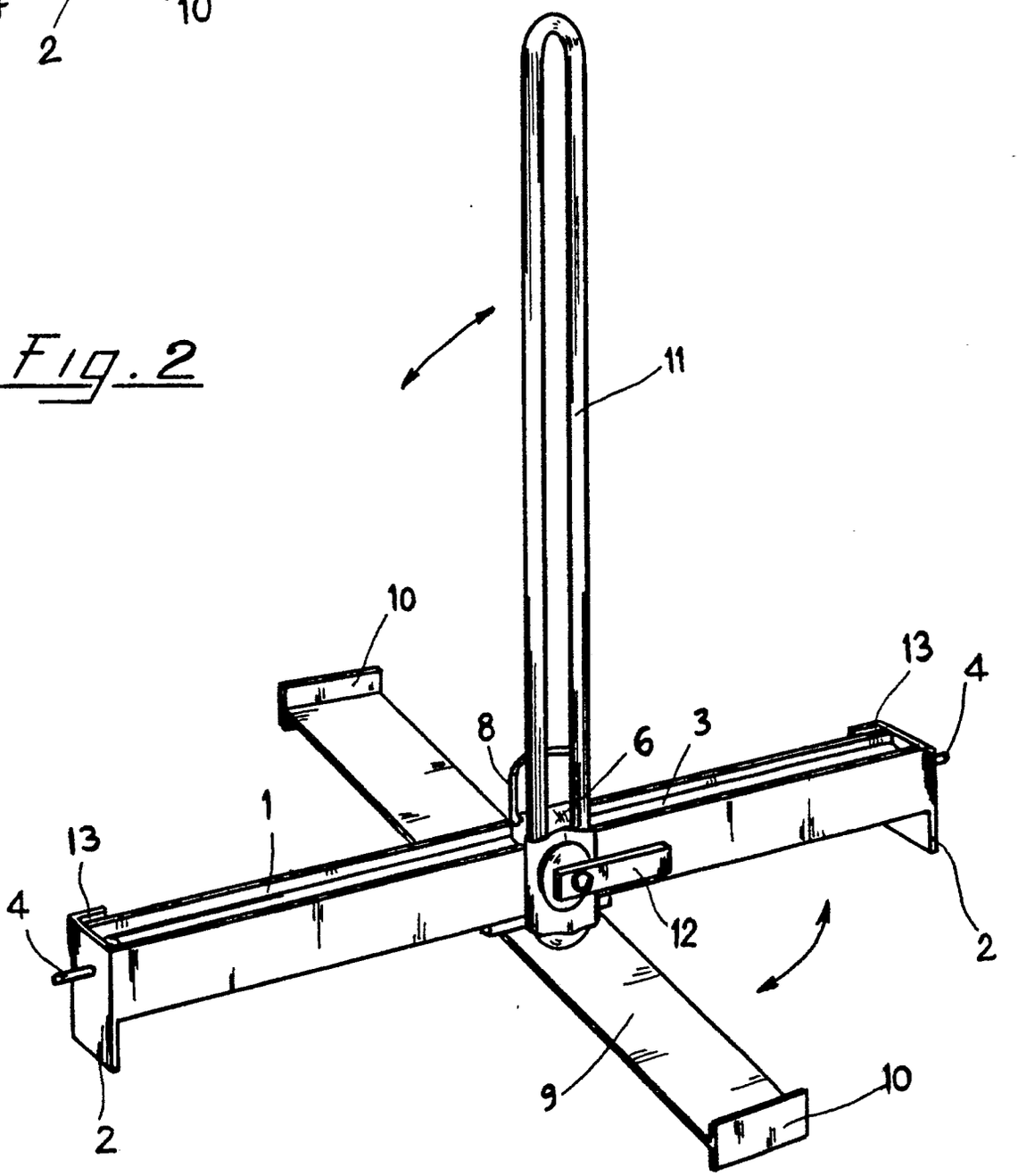


Fig.2



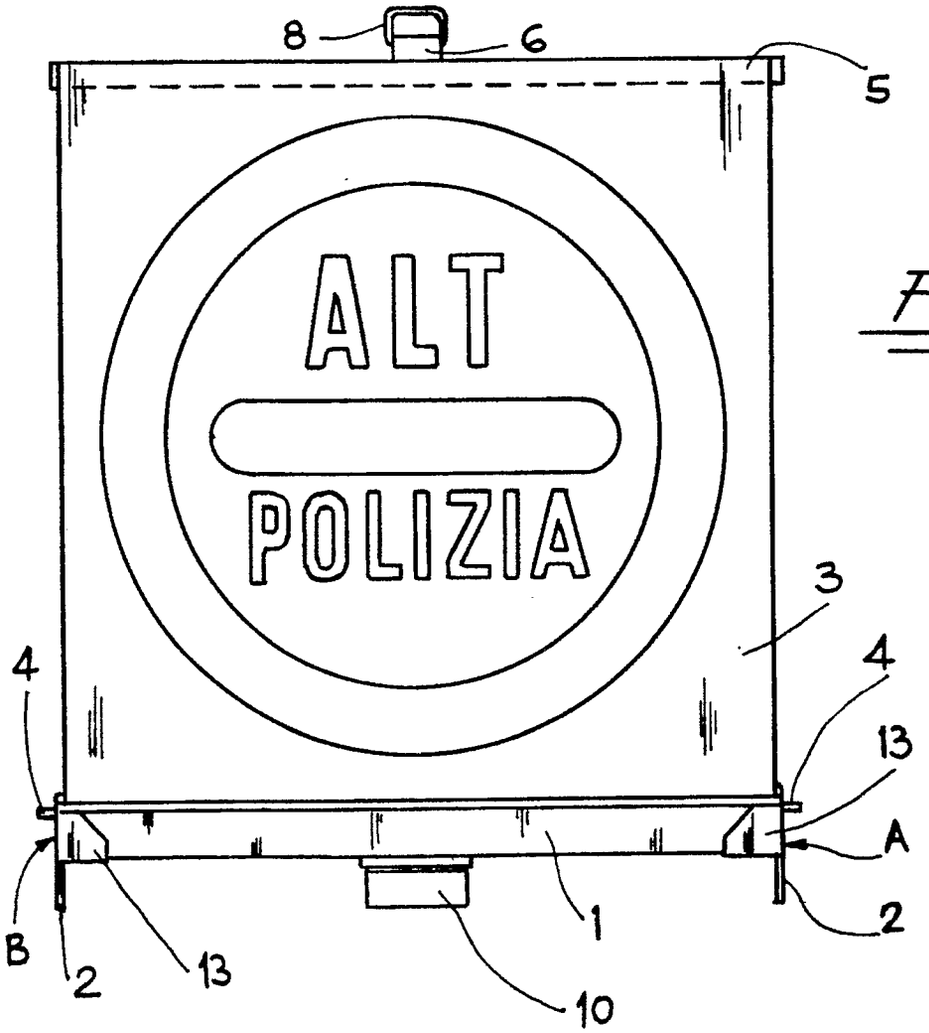


Fig.3

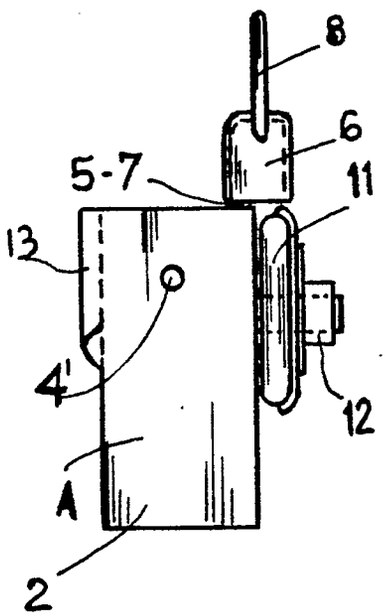


Fig.4

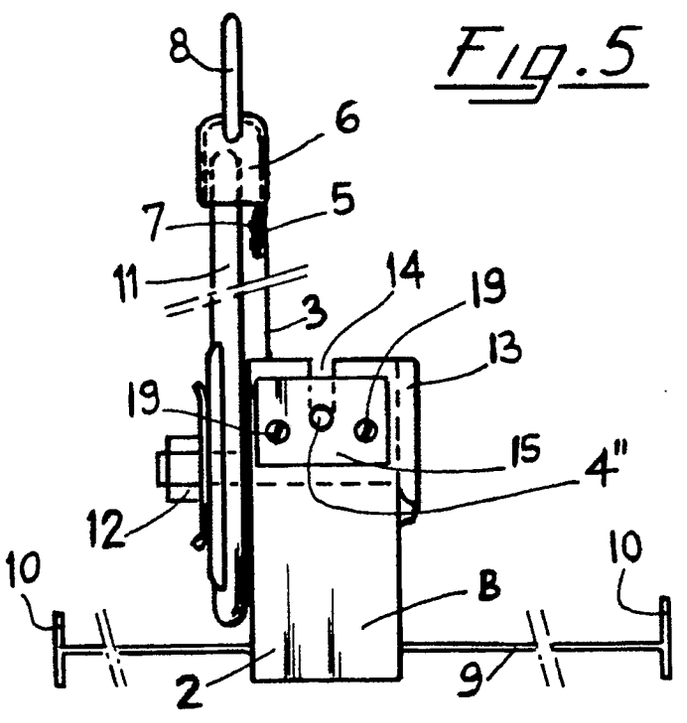


Fig.5

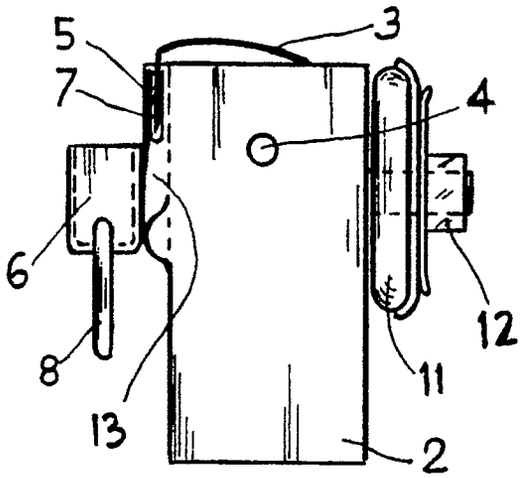


Fig. 6

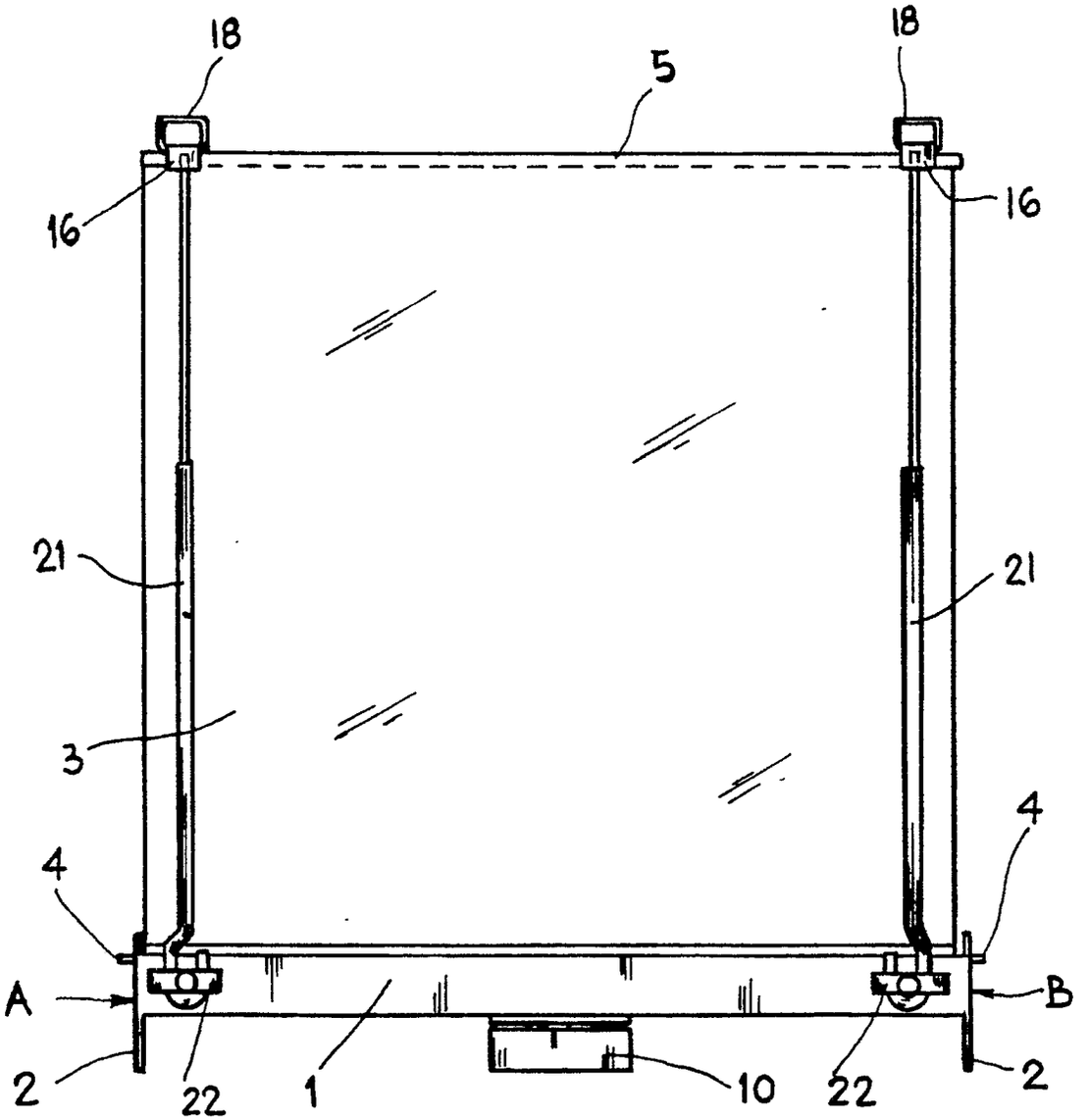


Fig. 7

European Patent Office

EUROPEAN SEARCH REPORT

Application Number

EP 90 11 2394

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X	GB-A-2 054 234 (CHARLESWORTH) * abstract; page 2, lines 27-107; claims 1-16; figures 1-4 *	1,2,6,7	E 01 F 9/01 B 60 Q 7/00 G 09 F 1/10
X	GB-A-2 181 289 (SPACE SAVER SIGNS) * abstract; page 1, lines 71-121; claims 1-5; figures 1-3 *	1	
A		2-5	
X	US-A-4 817 318 (STRAUCH) * abstract; column 3, line 15 - column 5, line 21; figures 1-6 *	1	
A		2,3,5	
A	GB-A-1 526 855 (KENYON) * page 1, lines 10-28; page 2, lines 28-51; figures 4-8 *	1,4	
A	US-A-4 368 586 (FORZELIAS) * abstract; column 1, line 61 - column 2, line 25; column 2, line 42 - column 3, line 12; figures 1-3 *	1,2,6,7	
P,A	EP-A-0 331 853 (COCHRANE) * abstract; column 2, line 25 - column 3, line 26; column 4, lines 25-37; figures 1,2 *	1,6,7	

TECHNICAL FIELDS SEARCHED (Int. Cl.5)

E 01 F 9/00
B 60 Q 7/00
G 08 B 5/00
G 09 F 1/00
G 09 F 7/00
G 09 F 15/00

The present search report has been drawn up for all claims

Place of search	Date of completion of search	Examiner
Berlin	26 October 90	BEITNER M.J.J.B.

CATEGORY OF CITED DOCUMENTS

X: particularly relevant if taken alone
Y: particularly relevant if combined with another document of the same catagory
A: technological background
O: non-written disclosure
P: intermediate document
T: theory or principle underlying the invention

E: earlier patent document, but published on, or after the filing date
D: document cited in the application
L: document cited for other reasons

&: member of the same patent family, corresponding document