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(54) **A SIGN HOLDER WITH A SIGN RECEIVED ON A ROCKER**

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SUPPORT D'ENSEIGNE COMPORTANT UNE ENSEIGNE REÇUE SUR UN ÉLÉMENT BASCULANT

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Description

[0001] The present invention relates to a sign holder according to the introductory portion of the independent claim.

Background of the invention

[0002] Sign holders suspended in such a fashion that they are able to pivot away in windy conditions are known in the art. Whether the sign in such a sign holder is suspended from a spring arrangement or hangs from an axle, the sign tends to resonantly swing back and forth at abrupt changes in wind speed. For sign holder resting on the ground, such a movement makes the sign holder to tip over more easily, and this is disadvantageous.

[0003] US-1856349-A1 discloses a sign received on one arm of a rocker. The rocker is pivotably suspended on an axle that constitutes the delineation between an arm and a nipple of the rocker. The rocker is provided with a counter weight attached to the nipple.

[0004] EP-1467341-A2 discloses a sign having a rotating display and illuminated with lights. The lights are powered though a slip-ring device on a frame and drive shaft of the display. The power can be from the mains, or alternative energy sources such as solar panels or a dynamo. The dynamo may charge a battery. The rotation can be wind-powered, or motorised. The sign can be used as an information display sign or as a decorative sign.

[0005] An object of the invention is therefore to provide a sign holder with diminished tendency to swing back and forth than sign holders according to known art.

[0006] These and other objects are attained by a sign holder according to the characterising portion of the independent claim.

Summary of the invention

[0007] The invention relates to a sign holder comprising or arranged to receive a sign 1. The sign is received on one arm of a rocker, where the rocker is pivotably suspended on an axle that constitutes the delineation between the two arms of the rocker. The rocker is on its other arm provided with a counter weight 2, and the axle is connected to at least one electrical generator 3a-b. The electrical generator generates electrical power that may be used by electrical equipment in the sign holder, but it also advantageously attenuates the movement of the sign.

[0008] The sign holder comprises at least one battery that receives electrical power generated by the at least one electrical generator 3a-b and the battery is arranged on the rocker is such a way that it constitutes the counter weight 2.

[0009] The sign 1 is usually powered by electricity and power is then supplied by the at least one electrical generator 3a-b. The sign 1 may be provided with a communication device, where the communication device is powered by current generated by the at least one electrical generator 3ab. The information being presented on the sign 1 may be alterable, and the communication device is used for altering the information being presented.

Brief description of the drawings

[0010]

Fig. 1 shows an embodiment of the sign holder with the sign tilted at an angle facing up

Fig. 2 shows an embodiment of the sign holder with the sign tilted at an angle facing down

Description of a preferred embodiment

[0011] The invention refers to a sign holder being designed to be particularly resilient to wind. The sign holder comprises a reception portion for a sign 1 and the reception portion constitutes the upper portion of a rocker 1-2. The rocker is pivotably suspended at a horizontal axle such that the rocker 1-2 is able to rock back and forth in the wind. The lower portion of the rocker is constituted by a counter weight portion that, when the sign holder is at equilibrium, extends downwards and at its lowermost end is provided with a counter weight 2. The counter weight has a weight selected such that the rocker naturally tends towards a vertical position.

[0012] If the sign holder is exposed to wind, the sign will pivot away as illustrated by the figures, but if the wind ceases, the sign holder would have started rocking back and forth, had it not been for the generators 3a-b. The axle at which the rocker is elevated is connected to electrical generators 3a-b situated at both ends of the axle, and these makes use of the power of the axle motion, generating electrical power. The generators will thus reduce the speed of motion of the sign and prevent the sign from spontaneously rock back and forth. The electric power from the generators may be used to power electronics in the sign holder, which may as an example be constituted by lightning, powering a display unit and powering communication equipment in the sign holder.

[0013] The figures illustrate an embodiment of the sign holder with the sign tilted at an angle facing upwards in fig. 1 and with the sign tilted at an angle facing downwards in fig. 2. The figures illustrate the reception portion as a frame 5 open at its top for receiving the sign 1. The frame is at its lower end attached to an axle that extends between the two generators 3a-b. The counter weight portion extends downwards and is constituted by two arms that at their lowermost ends are attached to the counter weight 2. Batteries are arranged in the counter weight and the electrical power is partially stored in the batteries. The batteries may for example be constituted by lead accumulators, and the volume of the counter weight may then be kept small as lead accumulators have a high density.

[0014] As seen from the viewer's perspective, the wind blows towards right in fig. 1, forcing the sign to pivot right, while the wind blows towards left in fig. 2, forcing the sign to pivot left. Without the braking 2-effect of the generators, at a sudden gust of wind, the sign would have pivoted out abruptly, been hurled beyond the wind equilibrium point and then rocked back and forth around the rest equilibrium point. With the generators, at a sudden gust of wind, the sign will instead pivot less abruptly towards the wind equilibrium point, and as it nears the rest equilibrium point, slowly drift towards it.

[0015] If the wind suddenly ceases, the sign would in a corresponding fashion accelerate towards the vertical position, pass beyond it, and then rock back and forth around the vertical position until it finally settles and remains immobile in the vertical position. With the generators, the acceleration towards the vertical position will instead be less rapid and as the sign nears the vertical position, a braking action will occur making the sign slowly move towards the vertical position and remain there. In a practical case, the generators will even out the movement of the sign at waxing and waning wind, making the sign sit more stably and make its motions less violent.

[0016] The sign is illustrated in the figures as a passive sign made from cardboard, paper, fabric or plastic, but it is preferable designed as an active digital sign where the information presented as exchangeable. The digital sign may use LCD, LED or other technologies, but under all circumstances it consumes electric power and this may be provided by the generators and the battery. The sign may also be provided with a wireless communication device, such that an operator may communicate with the sign in order to update the information presented on the sign. The communication device too may be powered with current from the generators and the batteries.

[0017] The batteries are at the lower end of the rocker as illustrated by the figures.

[0018] They could in principle have been differently positioned, but then some other type of counter weight i would have been needed, and then the total weight of the sign holder would unnecessarily have been higher. The electrical generators may be constituted by various types of dynamo like arrangement, but if dynamos as used that are designed to generate power only during rotation in one direction, it is advantageous to use two, one at each end of the axle as illustrated by the figures. Obviously, suitable electronics is present in the sign holder, that adapts the current from the generators for use by remaining electronics in the sign holder and for charging the batteries. The generators may also be complemented by solar cells on the sign holder and, if necessary, they may further be complemented by an input for connection to an external power source, but normally this is not necessary and the sign holder works independent of an external power supply.

Claims

1. A sign holder comprising a sign (1), where the sign is received on one arm of a rocker, where the rocker is pivotably suspended on an axle that constitutes the delineation between the two arms of the rocker, and where the rocker in its other arm is provided with a counter weight (2),
   characterised in
   that the axle is connected to at least one electrical generator (3a-b),
   that the sign holder comprises at least one battery that receives electrical power generated by the at least one electrical generator (3a-b), and
   that the battery is arranged on the rocker in such a way that it constitutes the counter weight (2).

2. A sign holder according to one of claim 1, **characterised in that** the sign (1) is powered by electricity and power is supplied from the at least one electrical generator (3a-b).

3. A sign holder according to anyone of the previous claims, **characterised in that** the sign (1) is provided with a communication device, where the communication device is powered by current generated by the at least one electrical generator (3a-b).

4. A sign holder according to claim 3, **characterised in that** information being presented on the sign (1) is alterable, and the communication device is used for altering the information being presented.

Patentansprüche

1. Schildhalter, umfassend ein Schild (1), wobei das Schild an einem Arm einer Wippe aufgenommen ist, wobei die Wippe schwenkbar auf einer Achse, welche die Abgrenzung zwischen den beiden Armen der Wippe bildet, aufgehängt ist, und wobei die Wippe mit einem Gegengewicht (2) in ihrem anderen Arm versehen ist,
   dadurch gekennzeichnet, dass
   die Achse mit mindestens einem Stromgenerator (3a-b) verbunden ist,
   dass der Schildhalter mindestens eine Batterie umfasst, die Strom empfängt, der durch den mindestens einen Stromgenerator (3a-b) generiert wird, und
   dass die Batterie derart auf der Wippe angeordnet ist, dass sie das Gegengewicht (2) bildet.

2. Schildhalter nach Anspruch 1, **dadurch gekennzeichnet, dass** das Schild (1) durch Elektrizität angetrieben ist und Strom von dem mindestens einen Stromgenerator (3a-b) zugeführt wird.

3. Schildhalter nach einem der vorangehenden An-

sprüche, **dadurch gekennzeichnet, dass** das Schild (1) mit einer Kommunikationsvorrichtung versehen ist, wobei die Kommunikationsvorrichtung durch eine Strömung angetrieben wird, die durch den mindestens einen Stromgenerator (3a-b) generiert wird.

4. Schildhalter nach Anspruch 3, **dadurch gekennzeichnet, dass** Informationen, die auf dem Schild (1) dargestellt werden, veränderbar sind, und die Kommunikationsvorrichtung zur Änderung der dargestellten Informationen verwendet wird.

Revendications

1. Porte-enseigne comprenant une enseigne (1), où l'enseigne est reçue sur un bras d'une bascule, où la bascule est suspendue de manière pivotante sur un essieu qui constitue la délimitation entre les deux bras de la bascule, et où la bascule, dans son l'autre bras, est pourvue d'un contrepoids (2) ,
caractérisé en ce que
l'essieu est relié à au moins un générateur électrique (3a-b),
le porte-enseigne comprend au moins une batterie qui reçoit de l'énergie électrique générée par le au moins un générateur électrique (3a-b), et
la batterie est agencée sur la bascule de telle façon qu'elle constitue le contrepoids (2).

2. Porte-enseigne selon l'une des revendications 1 ou 2, **caractérisé en ce que** l'enseigne (1) est alimentée en électricité et la puissance est fournie par le au moins un générateur électrique (3a-b).

3. Porte-enseigne selon l'une quelconque des revendications précédentes, **caractérisé en ce que** l'enseigne (1) est munie d'un dispositif de communication, où le dispositif de communication est alimenté en puissance par du courant généré par le au moins un générateur électrique (3a-b).

4. Porte-enseigne selon la revendication 3, **caractérisé en ce que** des informations présentées sur l'enseigne (1) sont modifiables, et le dispositif de communication est utilisé pour modifier les informations présentées.

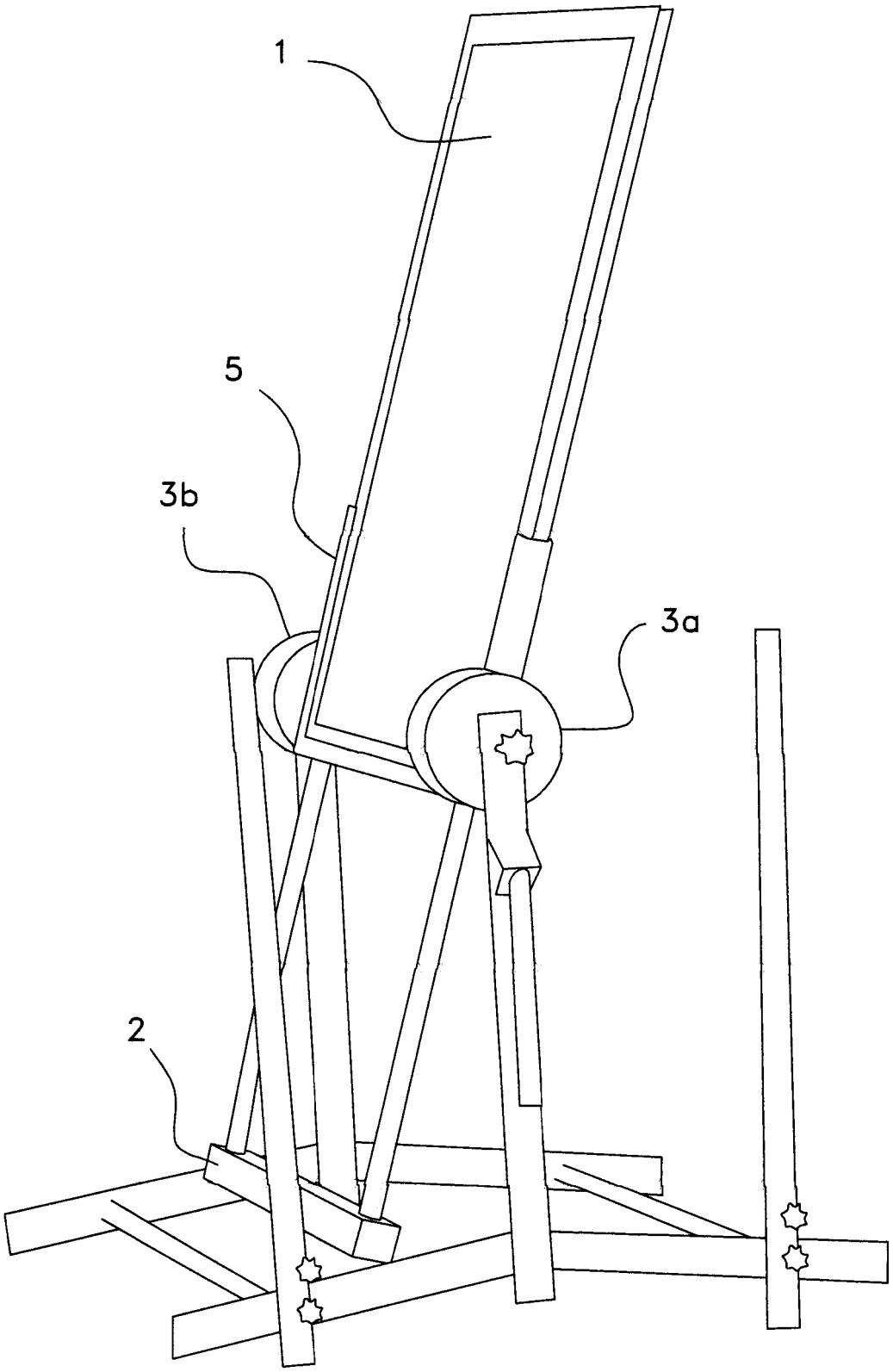

Fig. 1

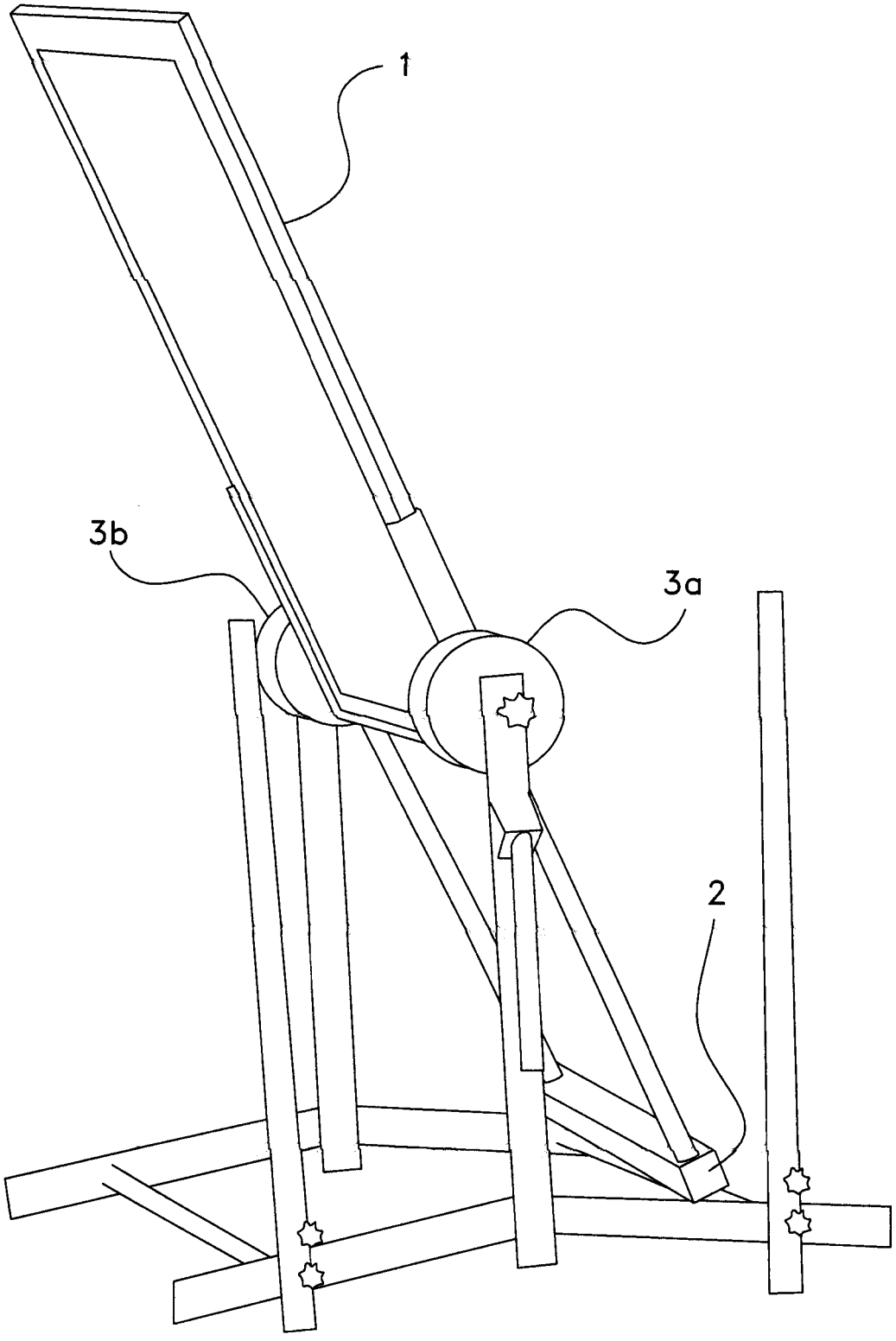

Fig. 2

REFERENCES CITED IN THE DESCRIPTION

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- EP 1467341 A2 **[0004]**