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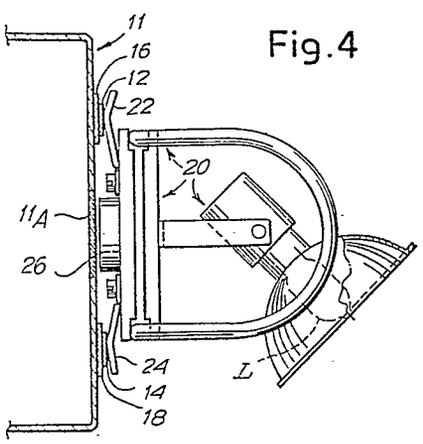
(54) Apparatus for mounting lamp-holders or other on a linear base by magnetic retention.

(57) On a sectional base (11), possibly with low-voltage power supply (12, 14), at least a longitudinal ferromagnetic zone (11A) is provided for the cooperation with permanent magnets (26) borne by lamp holders (20, L) or other objects to ensure the retention thereof on the base and the current supply by means of resilient appendixes (22, 24).

Fig.4



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Description

"APPARATUS FOR MOUNTING LAMP-HOLDERS OR OTHER ON A LINEAR BASE BY MAGNETIC RETENTION"

The invention refers to a system for mounting various objects in any position along a linear base - for use in exhibition facilities, home environments and other - with possible low-voltage electric current supply. The apparatus comprises, on the base, at least a longitudinal ferromagnetic zone and, on each of the objects to be mounted, at least a permanent magnet able to cooperate with said ferromagnetic zone to ensure the retention on the base.

Each object has two appendixes for the electrical contact, able to cooperate with longitudinal leads along the base, for drawing electric current, mostly at low voltage.

An object - such as a lamp holder to be mounted -may exhibit a hook-like appendix, a longitudinal bar being provided on the base to hang said hook. Said bar may constitute a lead for current supply, and the permanent magnet may also allow for the withdrawal of power from the ferromagnetic zone of the base. Alternatively, the base may present at least a longitudinal continuous contact strip or track, isolated with respect to the base, and on which a contact appendix is made to rest, while the object to be mounted on the base is urged against said base and retained thereon by the magnet(s). On the base, two contact strips or tracks may be provided, for respective contact appendixes, and the permanent magnet(s) is (are) then so arranged as to result spaced apart from the ferromagnetic zone.

The invention will be better understood by following the description and the attached drawing, which shows practical, non limitative exemplifications of the invention. In the drawing:

Figs. 1 and 2 show a cross-sectional and a front view of a first embodiment of the apparatus;

Figs. 3 and 4 show similarly to Figs. 1 and 2, a second embodiment of the apparatus according to the invention.

According to what is illustrated in Figs. 1 and 2, numeral 1 indicates a base or frame which can be mounted in whatever fashion and in any desired position within a room where useful objects for domestic or other uses like lighting fixtures, clocks, small radio sets, small electrical fans, calculators, timers or other are utilized. The base 1 has at least a zone in which a metal ferromagnetic part is present, such as the zone 1A. The base 1 may also consist entirely of ferromagnetic material, such as a suitably treated iron sheet or other more noble ferromagnetic material. A bar 3 is disposed in front of base 1 at a limited distance therefrom. Said bar 3 is intended for engaging the objects to be overhung at the base. Numeral 5 generally indicates an object to be overhung, which may be, for example, a lamp holder for a lamp L or other object among those listed above or other suitable objects. The object 5 is provided with a first upper appendix shaped in the form of a hook, which can be engaged on bar 3, and a second lower appendix 9 developing as far as the ferromagnetic strip 1A or, anyway, as far as the wall of the base made of ferromagnetic material. Said appendix 9 has a permanent magnet 10 which, in correspondence of the ferromagnetic surface, adhers thereto. Thus, the object that has been suspended to the bar 3 by the appendix 7 is blocked in the desired position and stabilized both horizontally, to make it stable with respect to the horizontal development of bar 3, and angularly with respect to same bar 3, whatever the position of the barycenter of object 5 may be.

An object such as that indicated by 5 may have more than one hooking appendix 7 and also more than one permanent magnet 10.

When the object requires a power supply, the bar 3 may be isolated with respect to base 1, while the latter may have the function of electrical lead as well, especially for low-voltage power supply. In this case, current supply is obtained through appendix 7 from bar 3 and through the permanent magnet 10 from the base 1, and in particular from strip 1A thereof. The current supply may also be obtained in whatever position the object is placed. Further, many objects mounted on the same base may be supplied with current.

In the exemplary embodiment shown in Figs. 3 and 4, base 11 has at least a zone 11A of ferromagnetic material, and two conducting strips or tracks 12 and 14 are mounted thereto, said strips being isolated with respect to base 11 by respective insulating strips 16 and 18. An object 20 which must be carried by the base 11 is provided with two appendixes 22 and 24 which are intended to press onto the conducting strips 12 and 14. In a central position, the object 20 has one or more permanent magnets 26, capable of exerting a suitable attractive force, said magnets being placed in correspondence to the ferromagnetic zone 11A of the base. In this case, the same attractive force taking place between magnet(s) 26 and the ferromagnetic part 11A ensures the positioning of the object 20, while the electric current supply is carried out by the appendixes 22 and 24 on strips 12 and 14 in any position an object may be positioned along the contacting strips 12 and 14.

In order to ensure good electrical contact of appendixes 22, 24 on strips 12, 14, it is often convenient that the magnet(s) 26 be so disposed as to result just spaced from the ferromagnetic zone 11A. Suitable means may further be provided for the centering of the object and the guiding thereof parallel to strips 12 and 14 to ensure the relative positioning in vertical direction.

It should be evident that, both in the embodiment of Figs.1 and 2 and in that of Figs. 3 and 4, the base 1 and 11 may be formed in modular segments so as to give rise to an easy and wide utilization of the system inside the most different rooms such as exhibition stands, meeting-places or other. The electrical connection of the leads of adjacent segments may be provided through plug means or other means of easy and prompt construction.

According to a further embodiment of the invention (not shown), on each object to be applied, two external permanent magnets may be disposed, intended to operate over two ferromagnetic zones, external with respect to two longitudinal metal contacts in the form, for example, of round bars or small bars extending approximately like the one indicated by 3. The electric current supply is achieved by means of elastic plates forcedly contacting the round bars through the magnets action.

Claims

1. Apparatus for mounting of various objects on a linear base, in whatever position along the said base - for use in exhibition facilities, in home environments and other - possibly with low-voltage power supply, characterized in that it comprises on the base at least a longitudinal ferromagnetic zone and, on each of the objects to be applied, at least a permanent magnet able to cooperate with said ferromagnetic zone to ensure the retention on the base.

2. Apparatus according to claim 1, characterized in that each object has two appendixes for electrical contact, apt to cooperate with longitudinal leads located along the base for electric current supply, especially at low voltage.

3. Apparatus according to claim 2, characterized in that an object has a hook-like appendix and that on the base a longitudinal bar is provided to hang said hook; said bar possibly acting as a lead for electric current supply, and the permanent magnet allowing as well the withdrawal of current from the ferromagnetic zone of the base.

4. Apparatus according to claim 2, characterized in that the base has at least a longitudinal continuous contacting strip or track, isolated with respect to the base, and an appendix is made to rest thereon, the object to be mounted being urged against the base and retained thereon by the permanent magnet(s).

5. Apparatus according to claim 4, characterized in that on the base two contacting strips are provided for relevant contact appendixes, and that the permanent magnet(s) are so disposed as to result just spaced from the ferromagnetic zone.

6. Apparatus according to claim 2, characterized in that the low-voltage supply transformer may be incorporated inside the base or a sectional element thereof.

Fig.1

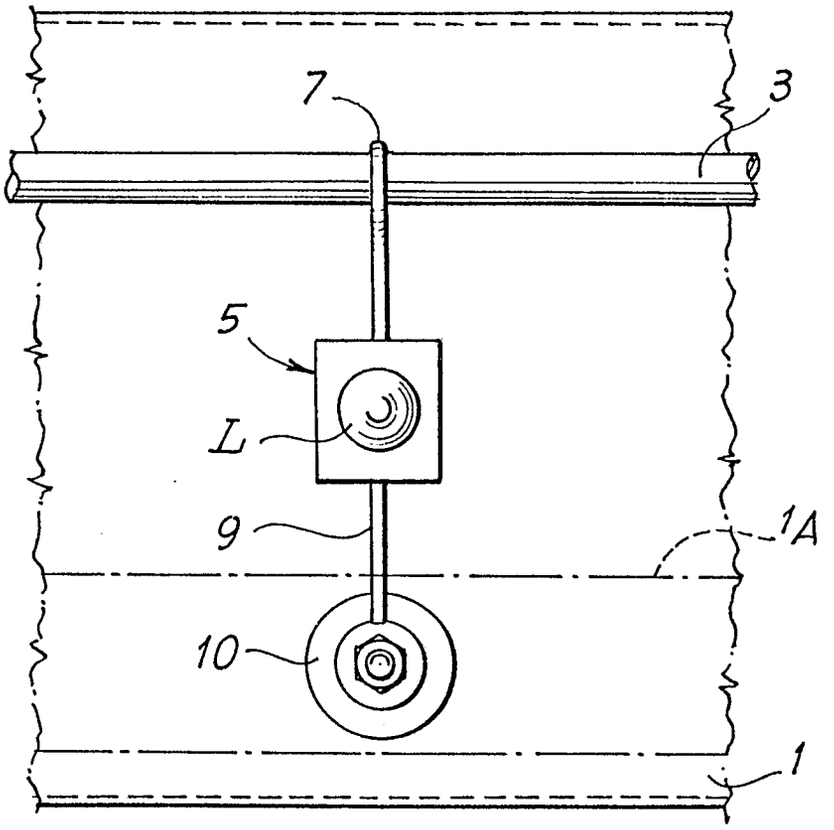
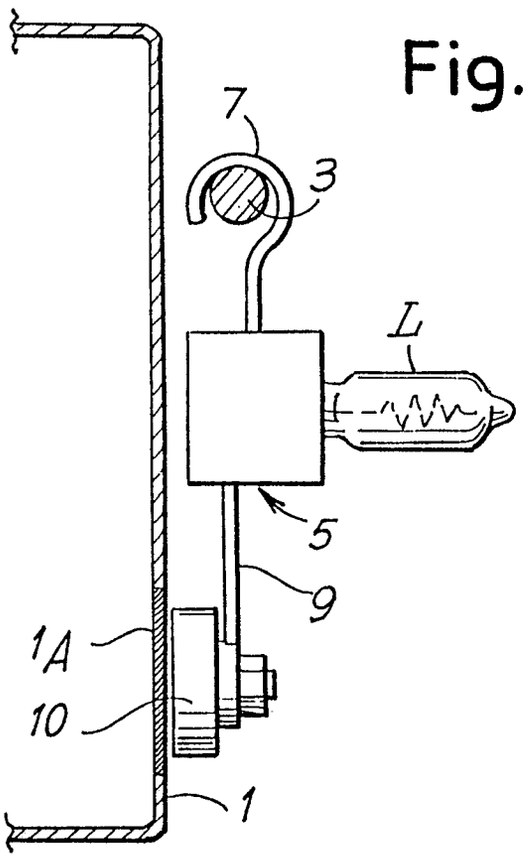


Fig.2



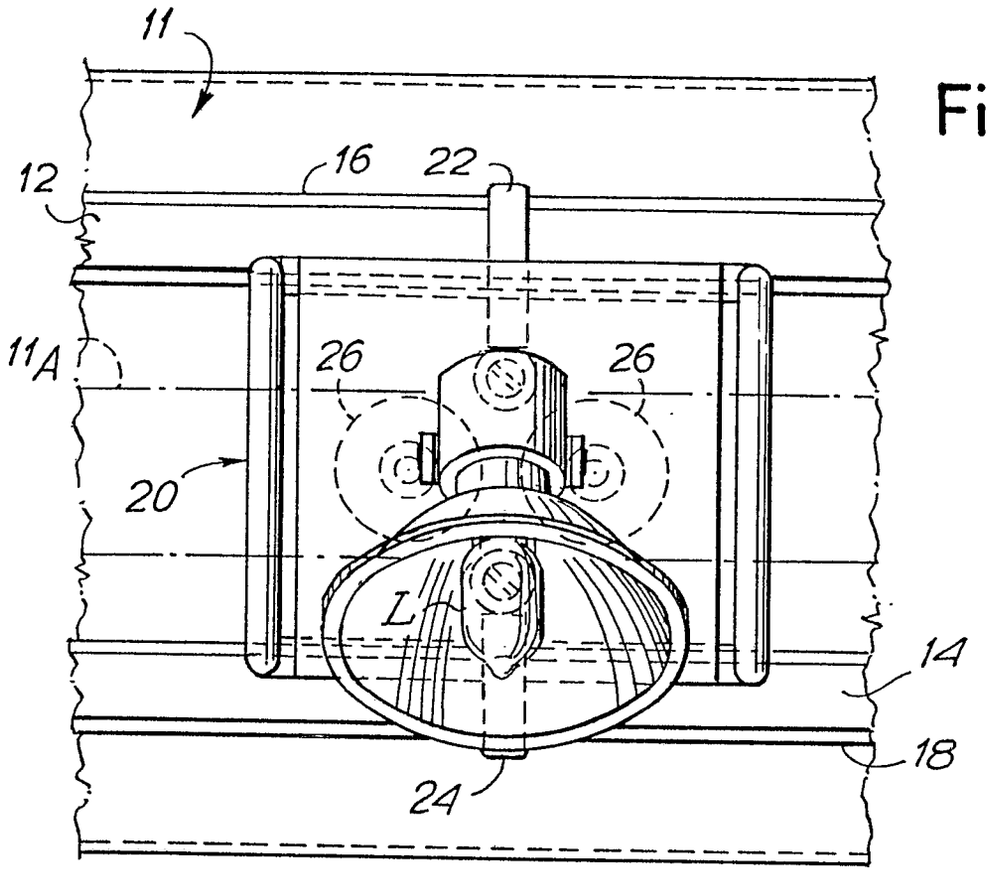


Fig.3

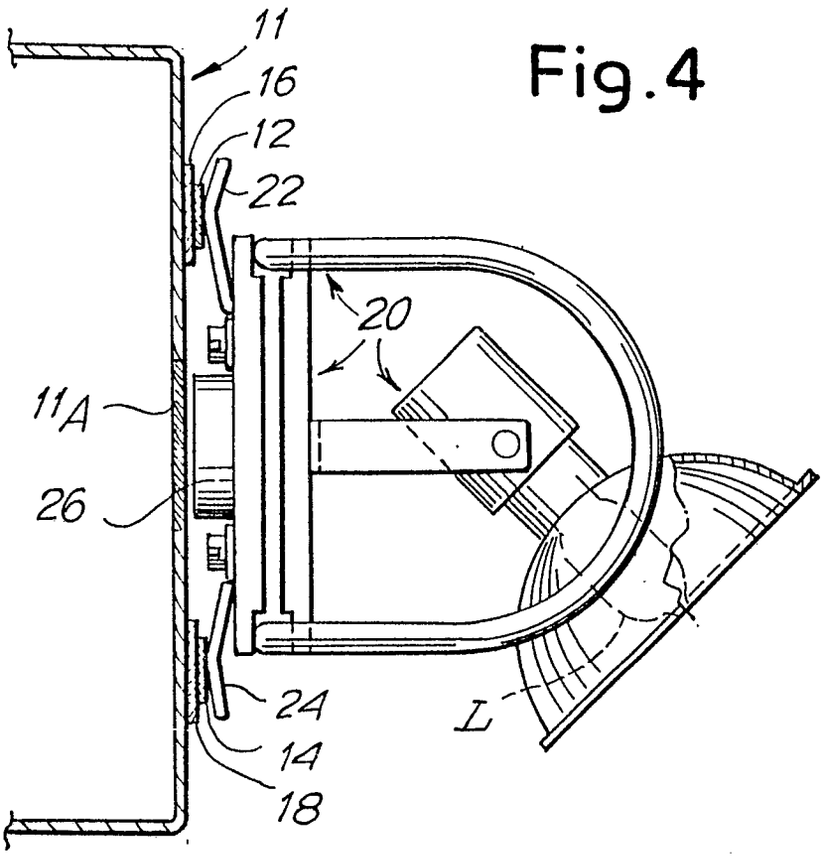


Fig.4