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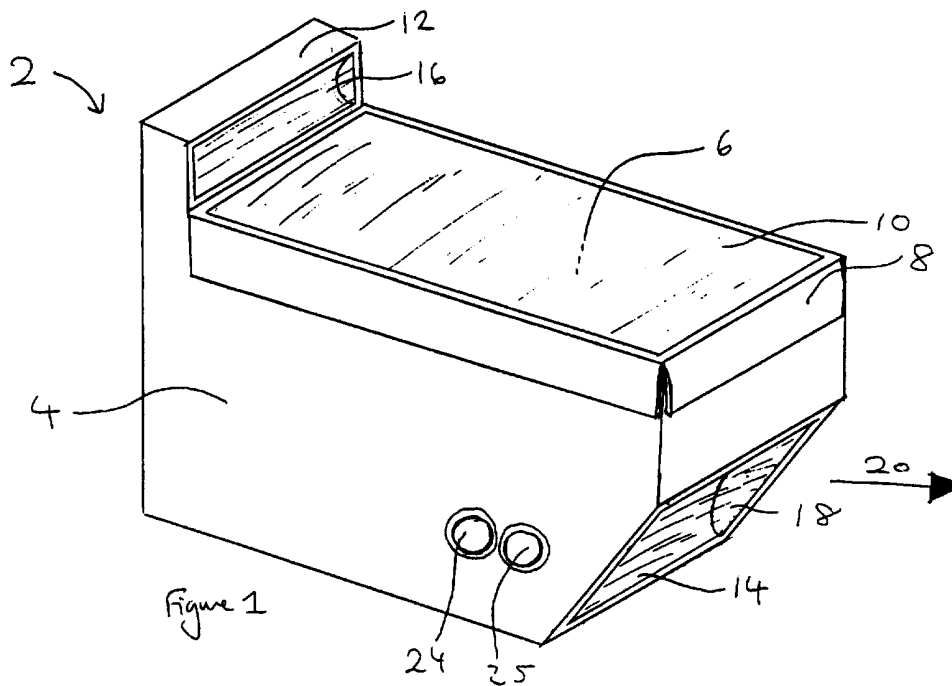
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GB 2241079 A

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(54) USING DATA-RECORDING DEVICES

(57) Casings for data-recording devices are disclosed which consist of a housing (4) having a closable chamber (6) for receiving and retaining a data-recording device. The lid (8) of the chamber includes a region (10) of transparent flexible material through which the data-recording device is visible, and its inputting keys may be depressed. Integral with the housing are two compartments (12 and 14) containing light bulbs. A handle 26 is mounted onto the housing so that the casing may be supported in one hand alone.

The casing facilitates the task of a meter-reader especially when a meter is installed in a dark location since by switching the light bulbs on and directing compartment (14) towards the meter the meter data display and data-recording device are simultaneously illuminated, and the data may be input through the flexible section of the lid with the hand not supporting the casing.



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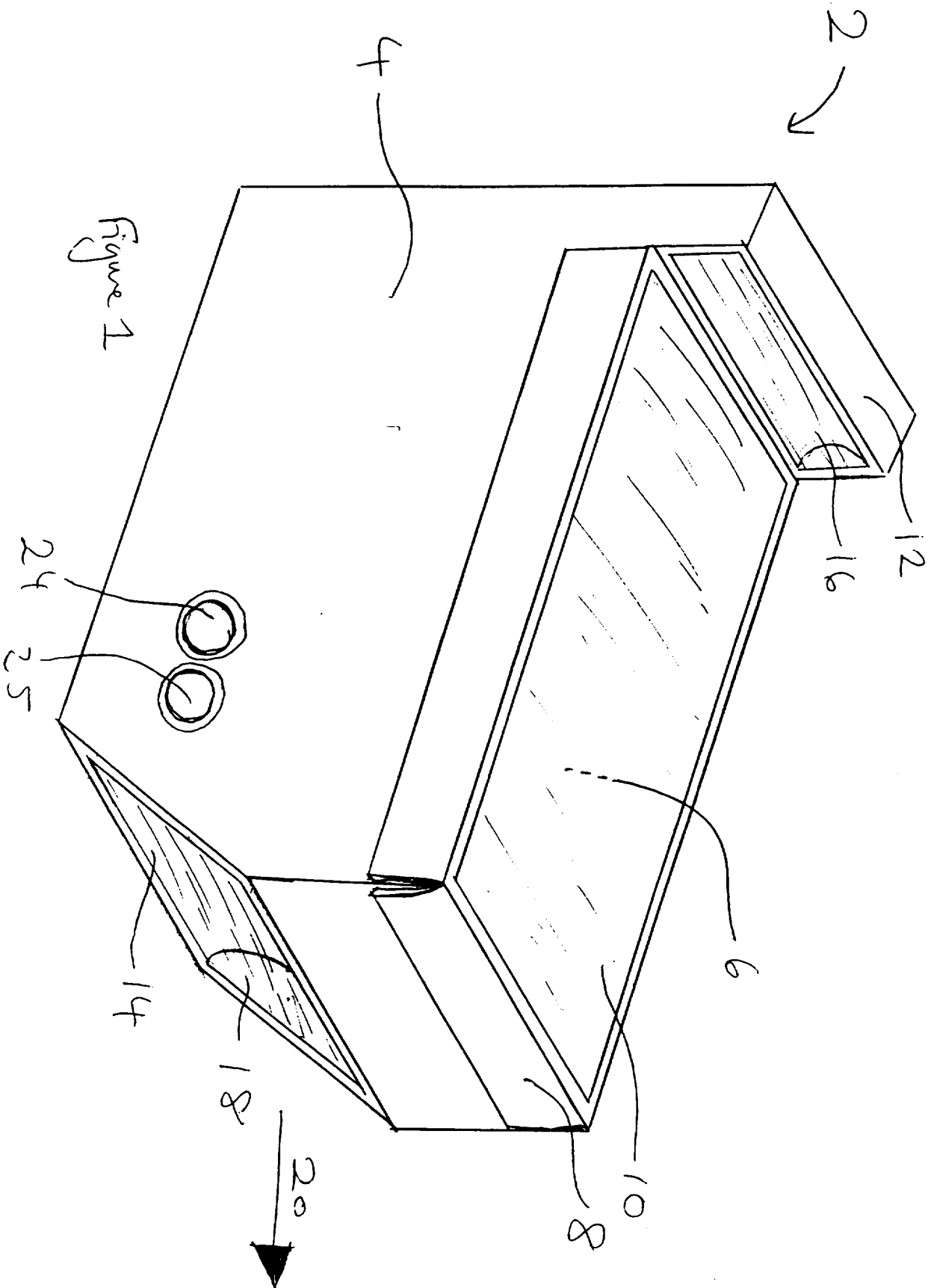


Figure 1

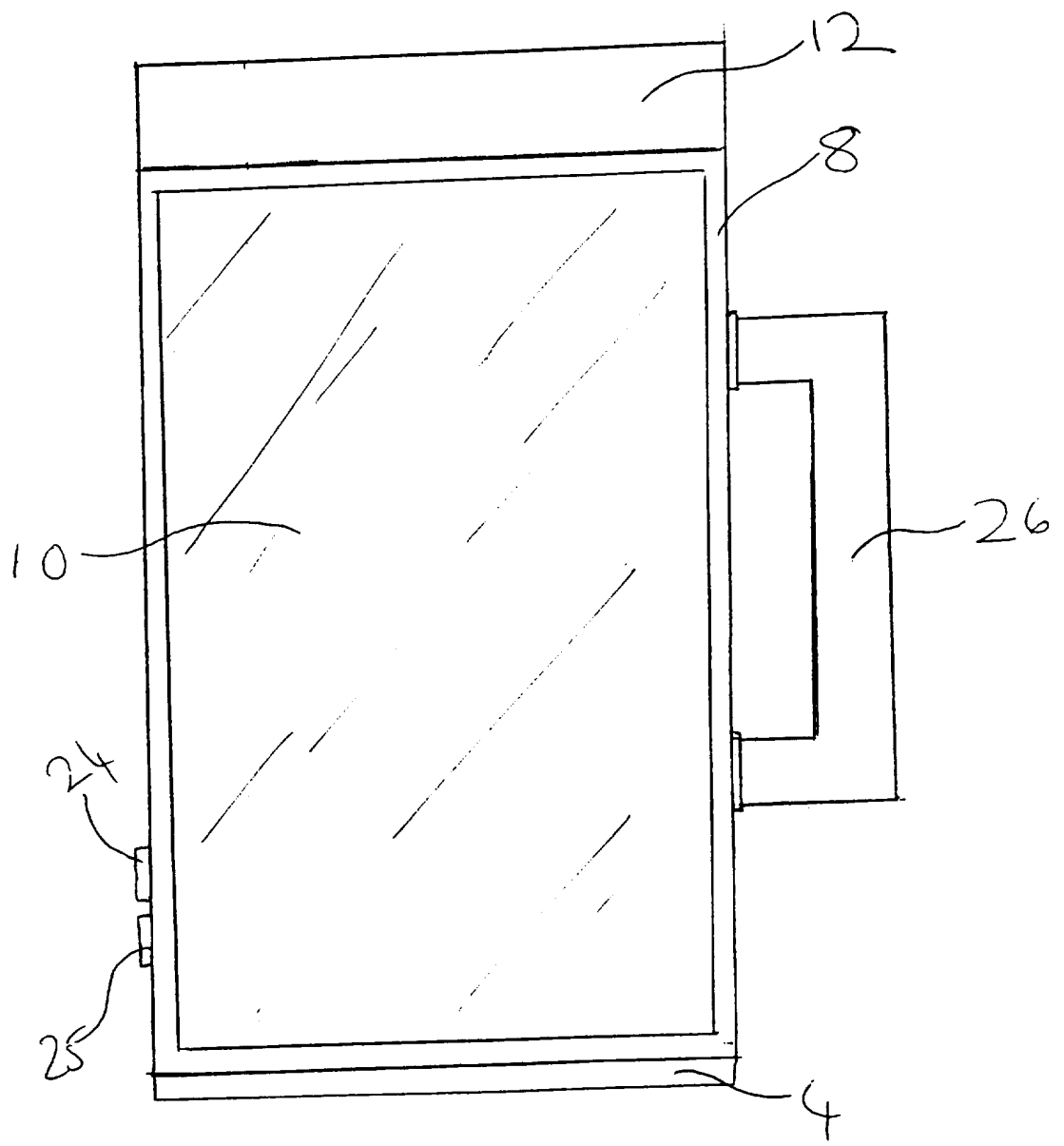


Figure 2

USING DATA-RECORDING DEVICES

This invention relates to using data-recording devices,
e.g. for meter-reading and more particularly to devices
5 for facilitating such activities.

Meters are well known as measuring instruments, and
provide a convenient means for measuring quantities of
fluids, gases, electricity, etc. For this purpose,
10 appropriate meters are often installed by the supply
company in private and commercial buildings so that any
use of services such as water, gas and electricity may be
monitored. The meters display a reading which
corresponds to the consumption of water, gas,
15 electricity, etc., which when read and recorded by
authorised individuals, provide the data for charging the
consumer for the quantities used.

Such authorised individuals will hereinafter be referred
20 to as "meter-readers", and their task of reading a data
display on a meter and recording the data in a data-
recording device will hereinafter be referred to as
"meter-reading".

Electronic devices for recording data, e.g. read by eye from a meter, are also well known in the art. They are conveniently hand-held, portable devices permitting their easy transportation, and usually include a keypad or other similar means for the inputting and subsequent retrieval of the relevant meter data.

Meter-reading is a time-consuming and inefficient activity, typically requiring each meter within a prescribed area to be viewed at regular intervals. This task is often hindered further since meters are often installed in difficult to access and/or dark locations, making reading and recordal of the data displayed on the meter more difficult. In order to see the meter and read the data it displays in such situations it is presently necessary for the meter reader to carry a separate flashlight or torch. This clearly prevents the meter-reader from being able to read the data from the meter and record it in a hand-held data recorder simultaneously, and thus makes it difficult for the meter-reader to work efficiently.

The present invention addresses these problems by providing a casing for a meter data-recording device which facilitates the meter-reading task so making it much more efficient and less time-consuming.

According to the present invention there is provided a casing for a data-recording device comprising a housing having a receptacle adapted to receive a data-recording device, and means for emitting a beam of light from the casing.

In one preferred embodiment of the present invention

there is additionally provided a means for illuminating at least part of the data-recording device when in the receptacle. This has the advantage that if the illumination means is suitably positioned, the data entered into the data-recording device may be visually checked by the meter reader for accuracy, or the illumination may help the meter reader see the means for inputting the data.

10 Preferably the receptacle for receiving the data-recording device has a sealable lid which consists of, at least in part, a transparent, flexible material through which at least the data-inputting means of the data-recording device are visible and may be manipulated. 15 Conveniently the data-inputting means consists of a conventional key pad, the keys of which are able to be depressed through the flexible material of the lid.

It is preferable for one or both illuminating means to consist of appropriately located compartments containing at least one light source, having at least one substantially transparent wall through which the light from the or each light source may be directed. The other non-transparent walls of the compartments are preferably internally lined with a substantially light reflective material. Conveniently, the actuating means for the light sources, such as switches or buttons, are mounted onto an external surface of the housing of the casing. The electrical connections between the switches and the light sources are preferably enclosed within the housing of the casing.

The light sources may be of any known type, such as light bulbs, high brightness light emitting diodes, or a

combination thereof.

5 The casing may be of any appropriate size to accommodate the required data-recording device but most preferably, the casing is portable and may be hand-held. The casing will also preferably, be of an appropriate size to accommodate a power source, such as one or more batteries, for the light sources.

10 Conveniently the housing bears a handle to facilitate holding the casing. Preferably the handle is substantially rigid so that the casing containing the data-recording device may be supported by one hand alone.

15 The invention will now be described by way of example only with reference to the accompanying drawings in which:

20 Figure 1 shows a perspective view of one embodiment of a casing according to the present invention,

Figure 2 shows a plan view of the casing of Figure 1.

25 A casing 2 for a meter data-recording device consists of a housing 4 containing a chamber 6 for receiving a data-recording device of appropriate size (not shown) and a battery (not shown). The data-recording device may be inserted into the chamber 6 by opening lid 8 and re-closing it once the data-recording device is in position.
30 The lid 8 has a section 10 composed of transparent, flexible material. By virtue of this section 10 the data inputting keys of the data-recording device are visible and may be depressed without the removal of lid 8.

Two illuminating compartments 12 and 14 contain light bulbs (not shown). The front walls 16 and 18 of compartments 12 and 14 respectively are composed of a transparent durable plastics material and the remaining walls of the compartments 12 and 14 are lined internally with light reflective material. On switching the switches 24 and 25 to the "on" position, the light bulbs in compartments 12 and 14 respectively are actuated. The light is directed by the light reflective material lined walls of the compartments through the transparent walls 16 and 18 of the illuminating compartments 12 and 14 respectively.

In this manner, the light bulb from compartment 12 illuminates the data-recording device within chamber 6 and the light bulb from compartment 14 illuminates the area ahead of transparent wall 18 in the general direction depicted by arrow 20. Clearly when directed towards a meter, compartment 14 illuminates the meter and its data display.

With reference to Figure 2, a rigid handle 26 is mounted onto one side of housing 4. This allows the casing containing the data-recording device to be held in one hand comfortably, leaving the other hand free.

In use, a data-recording device is inserted into chamber 6 of casing 2 as described above, and is supported by holding handle 26 in one hand. At each meter, the meter-reader turns switches 24 and 25 to the "on" position and directs the casing 2 toward the meter such that the light from compartment 14 illuminates the data display of the meter. The light from compartment 12 illuminates the data-recording device which is visible through section 10

of the lid 8 of chamber 6. By virtue of this casing 2,
the meter-reader is able to read the data, that is
illuminated and hence now clearly visible on the meter,
and to use his free hand to input this data into the
5 data-recording device, that is illuminated and hence now
clearly visible through section 10 of lid 8, by
depressing the keys of the recorder through the flexible
section 10.

10 The casing thus provides the means for the simultaneous
illumination of data on a meter and a data-recording
device, and input of the data into the recorder, so
making the task of meter-reading easier and more time
efficient.

15

CLAIMS

1. A casing for a data-recording device comprising a housing having a receptacle adapted to receive a data-recording device, and means for emitting a beam of light from the casing.
2. A casing for a data-recording device according to Claim 1 wherein the receptacle has a closable lid and includes a section composed of a transparent and flexible material through which at least the data inputting means of the data-recording are visible and may be manipulated.
3. A casing for a data-recording device according to Claim 1 or 2 wherein the illuminating means consists of an appropriately located compartment containing at least one actuatable light source and having at least one substantially transparent wall through which the light from the or each light source may be directed.
4. A casing for a data-recording device according to Claim 3 wherein the other non-transparent walls of the compartment are internally lined with a substantially light reflective material.
5. A casing for a data-recording device according to Claim 3 or 4 wherein the actuating means for the light source or sources is a switch/button mounted onto an external surface of the housing.
6. A casing for a data-recording device according to any of preceding claims wherein a substantially

rigid handle is mounted onto an external surface of the housing.

- 5 7. A casing for a data-recording device according to any one of claims 1 to 6 in which there is provided a means for illuminating at least part of the data-recording device when in the receptacle.
- 10 8. A casing for a data-recording device according to claim 7 in which the illuminating means consists of an appropriately located second compartment containing at least one actuatable light source and having at least one substantially transparent wall through which the light from the or each light
15 source may be directed.
- 20 9. A casing for a data-recording device according to claim 8 in which the other non-transparent walls of the second compartment are internally lined with a substantially light reflective material.
- 25 10. A casing for a data-recording device according to claims 8 or 9 in which the actuation means for the light source or sources is a switch/button mounted onto an external surface of the housing.
- 30 11. A casing for a data-recording device according to any one of claims 3 to 5 or 8 to 10 in which the light source or sources are light bulbs.
12. A torch or flashlight including a casing, a power supply, an illumination source and means to produce a beam of light, characterised by means to attach a data-recording device to the casing.

13. A torch or flashlight according to claim 12 characterised by the addition of a second illumination source positioned and adapted, when lit, to illuminate at least part of the data-recording device.
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Patents Act 1977
 Examiner's report to the Comptroller under Section 17
 (The Search report)

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Relevant Technical Fields

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- (ii) Int Cl (Ed.6) F21M 11/00; F21V 33/00

Databases (see below)

- (i) UK Patent Office collections of GB, EP, WO and US patent specifications.
- (ii) ONLINE DATABASES: WPI, CLAIMS, EDOC, WPIL

Search Examiner
 A J RUDGE

Date of completion of Search
 27 FEBRUARY 1995

Documents considered relevant following a search in respect of Claims :-
 1 - 13

Categories of documents

- X:** Document indicating lack of novelty or of inventive step. **P:** Document published on or after the declared priority date but before the filing date of the present application.
- Y:** Document indicating lack of inventive step if combined with one or more other documents of the same category. **E:** Patent document published on or after, but with priority date earlier than, the filing date of the present application.
- A:** Document indicating technological background and/or state of the art. **&:** Member of the same patent family; corresponding document.

Category	Identity of document and relevant passages	Relevant to claim(s)
A	GB 2241079 A eg Claim 1 and abstract	12

Databases: The UK Patent Office database comprises classified collections of GB, EP, WO and US patent specifications as outlined periodically in the Official Journal (Patents). The on-line databases considered for search are also listed periodically in the Official Journal (Patents).