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(56) Documents Cited

**US 4939514 A
I.B.M. Tech. Disc. Bull.;Vol. 27;No. 4a;Sept '84;
Pp.2002-4.**

(58) Field of Search

**UK CL (Edition M) B6F FCGK
INT CL⁵ G06F 1/00 3/02 15/02
ONLINE DATABASES:WPI**

(54) **Portable computer with folding keyboard.**

(57) A portable computer comprises a processor unit and an attached, foldable, flexible film keyboard which occupies an area equal to or smaller than that of the processor unit when it is folded, and which occupies an area greater than that of the processor unit when unfolded.

As described (Fig 2) the keyboard (11) is folded along parallel fold lines (21, 22) and then folded about the joiner with the processor unit (10) to underlie the unit (10), whereafter it is covered by a closure flap (23). The closure flap (23) may serve as a stand when the computer is in use.

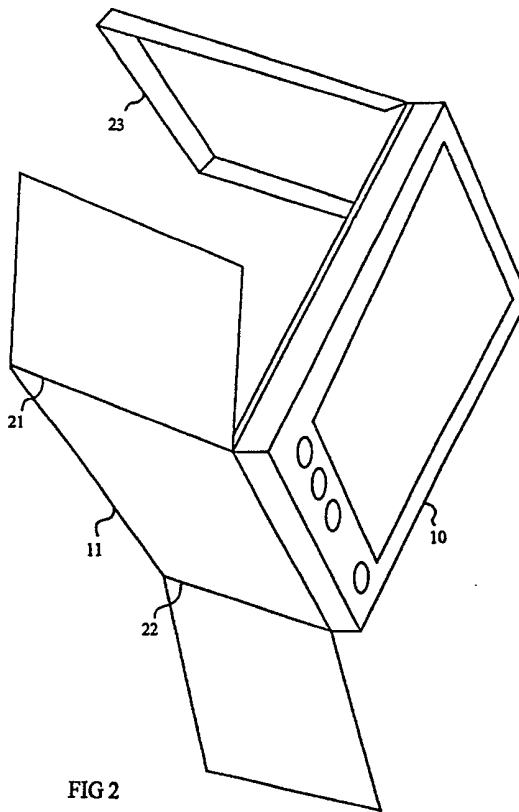


FIG 2

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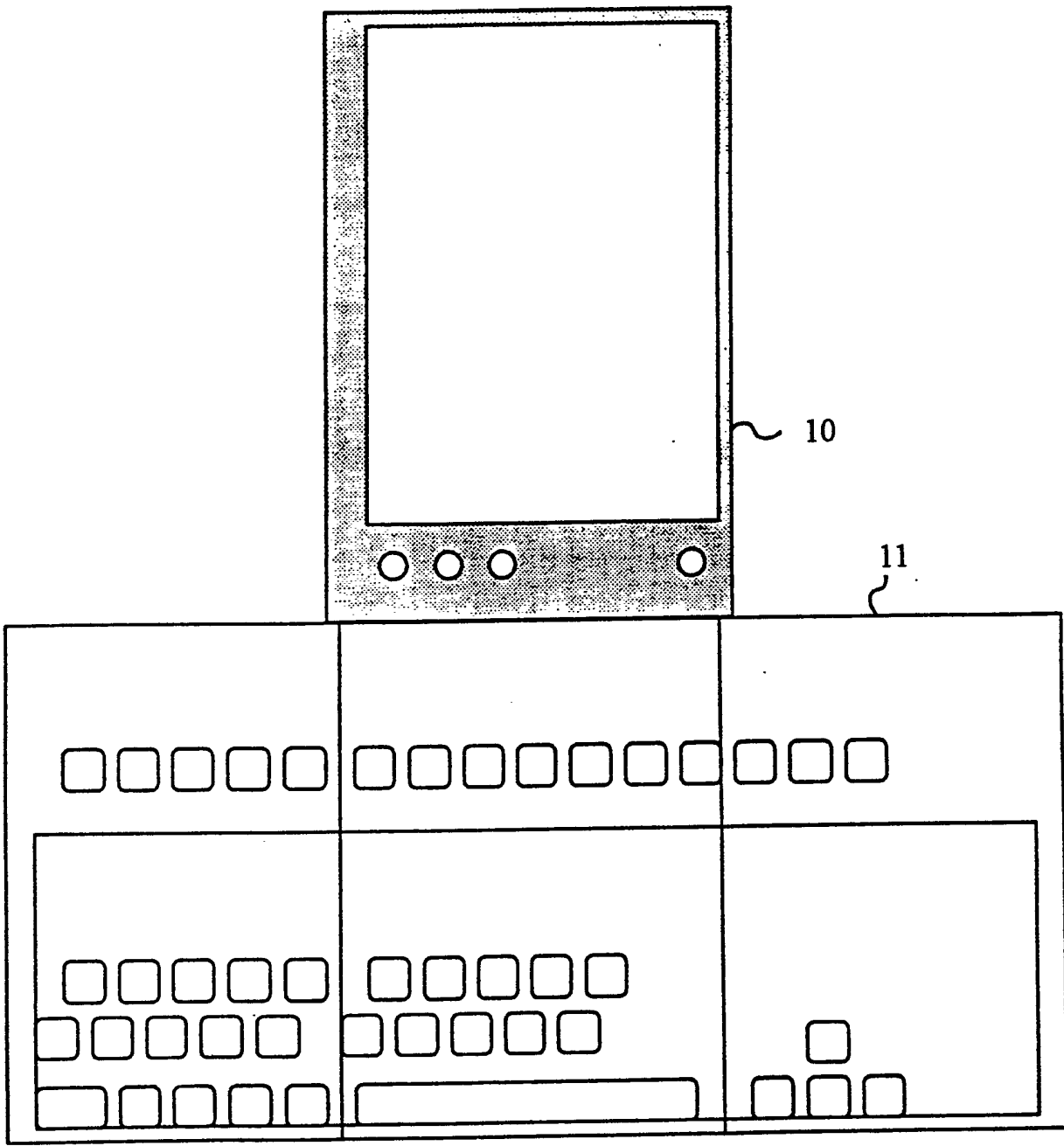


FIG 1

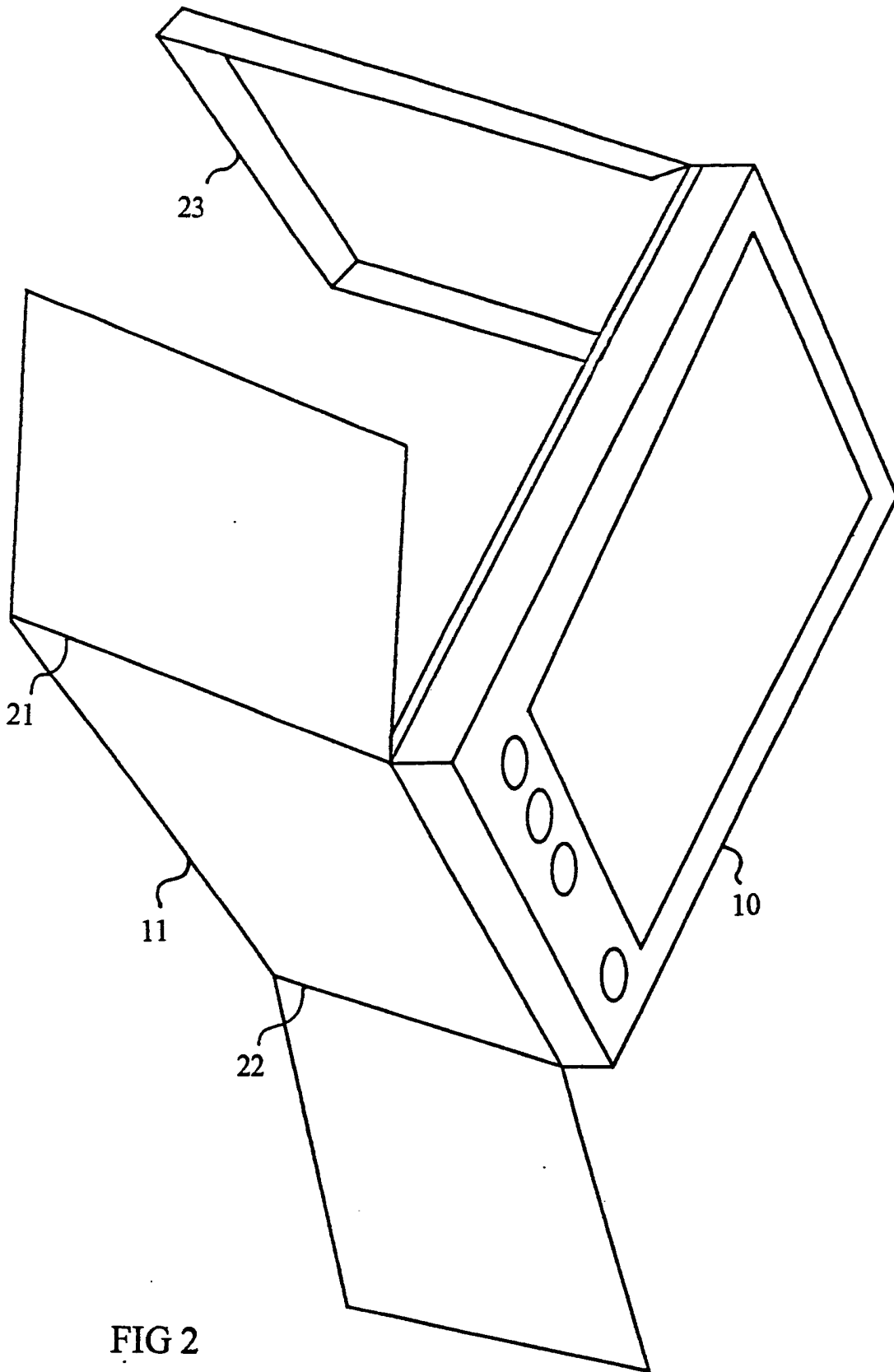


FIG 2

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PORTABLE COMPUTER

Background to the Invention

This invention relates to portable computers and is particularly, although not exclusively, concerned with computers of the kind generally referred to as palm-top computers, ie those small enough to be held in the palm of the hand.

Current palm-top computers use a touch sensitive screen and stylus to enable a user to write directly on the screen. With handwriting recognition software, this allows the input of small quantities of data, usually restricted to form filling.

A problem is that, for large-quantity data input, eg of documents, a keyboard is still the most efficient data entry device. However, the physical size of a palm-top precludes the use of a conventional keyboard.

The object of the present invention is to provide a novel keyboard suitable for use in a palm-top computer.

Summary of the Invention

According to the invention there is provided a portable computer comprising a processor unit and a keyboard, characterised in that the keyboard comprises a flexible film keyboard attached to the processor unit which can be folded into a storage position in which it occupies an area equal to or smaller than that of the processor unit, and can be unfolded into a use position in which it occupies an area

greater than that of the processor unit.

Brief Description of the Drawings

Figure 1 is a view of a palm-top computer and keyboard in accordance with the present invention.

Figure 2 is a perspective view showing the way in which the keyboard can be folded away when not in use.

Description of an Embodiment of the Invention

One embodiment of the invention will now be described by way of example with reference to the accompanying drawings.

Referring to Figure 1, a palm-top computer comprises a processor unit 10 and a keyboard 11. The processor unit is physically small enough to be held in the palm of the hand, and holds processing circuits, memory, battery power supply, function keys and a display screen. The processor unit 10 may be conventional in form and so will not be described in any further detail.

The keyboard 11 is a flexible film keyboard, attached to the processor unit, and carries a set of alphanumeric keys and function keys arranged in a similar manner to a conventional keyboard. When the keyboard is in use, as shown in Figure 1, it lies flat and occupies an area considerably larger than the processor unit.

Because the keyboard is flexible, it needs to be placed on a hard surface for use.

Referring now to Figure 2, when the keyboard is not required, it can be folded away. The keyboard is folded along two lines 21, 22 and then folded under the processor unit. A cover 23 can then be closed to protect the keyboard and to

retain it in the folded position. When the keyboard is in use, the cover 23 doubles as a stand for the processor unit, to tilt it into a more useable orientation.

CLAIMS

1. A portable computer comprising a processor unit and a keyboard, characterised in that the keyboard comprises a flexible film keyboard attached to the processor unit which can be folded into a storage position in which it occupies an area equal to or smaller than that of the processor unit, and can be unfolded into a use position in which it occupies an area greater than that of the processor unit.
2. A computer according to Claim 1 further including a cover which can be closed over the keyboard when the keyboard is in its storage position.
3. A computer according to Claim 2 wherein the cover can also act as a stand for holding the processor unit in a desired orientation.
4. A computer according to any preceding claim wherein the keyboard is folded along two lines to fold it into its storage position from its use position.
5. A palm-top computer substantially as hereinbefore described with reference to the accompanying drawings.

Amendments to the claims have been filed as follows :-

CLAIMS

1. A portable computer comprising a processor unit and a keyboard, characterised in that the keyboard comprises a flexible film keyboard attached to the processor unit which can be folded into a storage position in which it occupies an area equal to or smaller than that of the processor unit, and can be unfolded into a use position in which it occupies an area greater than that of the processor unit, said flexible film keyboard being sufficiently flexible that it requires to be placed on a hard surface for use.
2. A computer according to Claim 1 further including a cover which can be closed over the keyboard when the keyboard is in its storage position.
3. A computer according to Claim 2 wherein the cover can also act as a stand for holding the processor unit in a desired orientation.
4. A computer according to any preceding claim wherein the keyboard is folded along two lines to fold it into its storage position from its use position.
5. A palm-top computer substantially as hereinbefore described with reference to the accompanying drawings.

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Relevant Technical Fields

- (i) UK Cl (Ed.M) B6F: FCGK
- (ii) Int Cl (Ed.5) G06F - 001/00; -003/02; -015/02

Databases (see below)

(i) UK Patent Office collections of GB, EP, WO and US patent specifications.

(ii) ONLINE DATABASES: WPI

Search Examiner
 F G MILES

Date of completion of Search
 14 SEPTEMBER 1994

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

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)
X	US 4939514 A (MIAZAKI) IBM; Tech. Disc. Bull; Vol 27; No 4A; September 1984; Pages 2002-2004	1 at least 1 at least

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).