United States Patent [19]

Mulholland

[11] **3,884,342**

[45] **May 20, 1975**

[54] **PORTABLE DATA SET**

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[73] Assignee: **Monarch Marking Systems, Inc.**, Dayton, Ohio

[22] Filed: **Oct. 22, 1970**

[21] Appl. No.: **83,051**

[52] **U.S. Cl.** ..... **197/186 R**; 197/9

[51] **Int. Cl.** **B41j 29/02**

[58] **Field of Search** ..... 197/9, 180, 186 R, 186 A, 197/186 B; 312/208

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Primary Examiner—Ernest T. Wright, Jr.
Attorney, Agent, or Firm—Joseph J. Grass

[57] **ABSTRACT**

There is disclosed a portable data set including an assembly having a housing for mounting a printer and/or a keyboard together with carrying and supporting means. In one embodiment the carrying and supporting means is disclosed as having a pair of posts depending from the underside of the housing and joined by a curved, relatively long, handle; in another embodiment it is disclosed as positioned at the end of a housing, with the housing being provided with an elongated recess extending toward the handle; and in still another embodiment it is disclosed as including a pivotally mounted handle which can be used to support the data set on the user's arm, to carry the data set, or to support the unit on a supporting surface.

2 Claims, 12 Drawing Figures

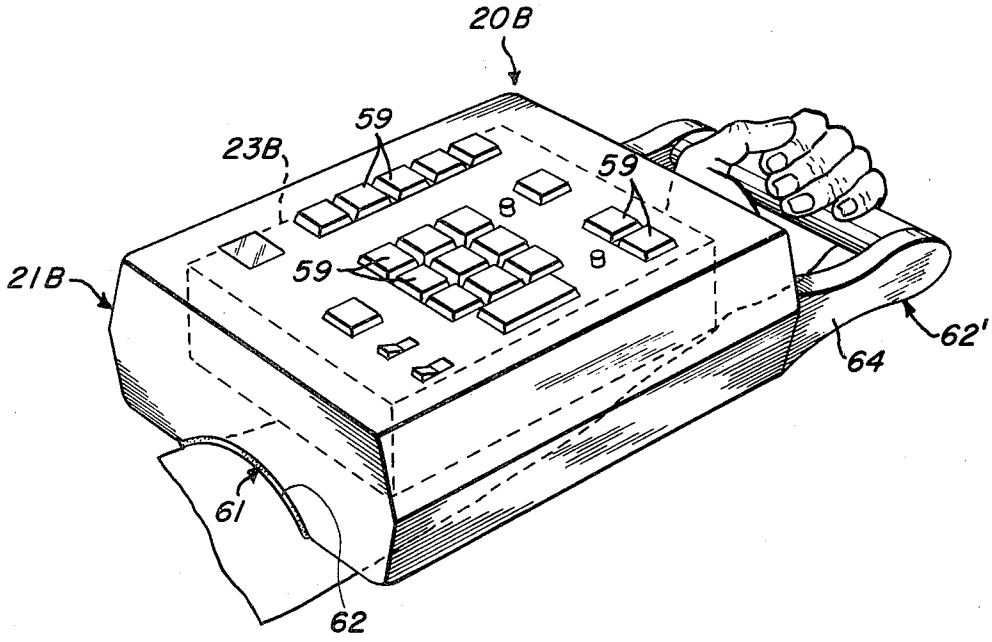
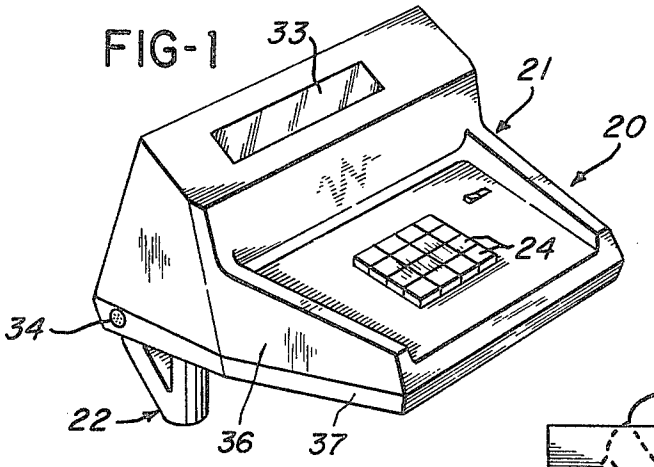


FIG-1



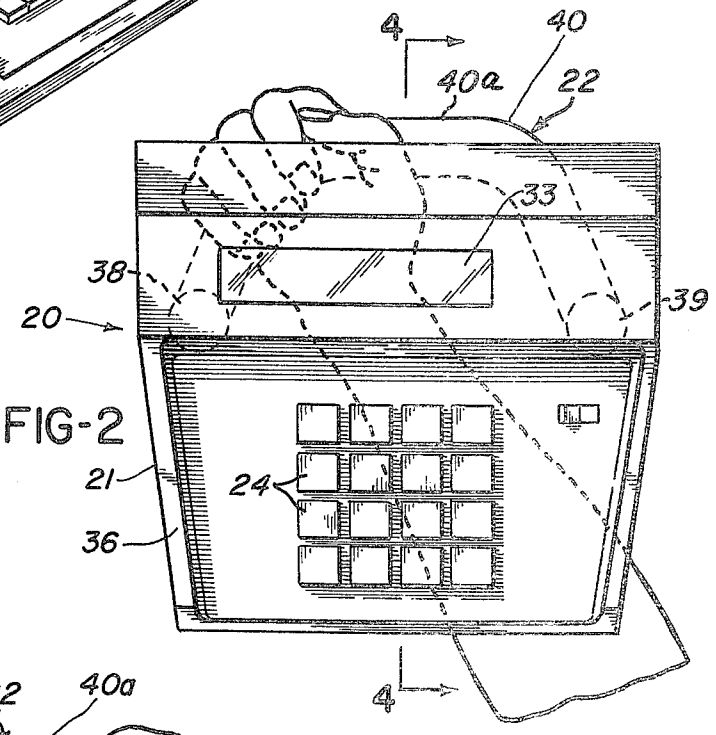


FIG-2

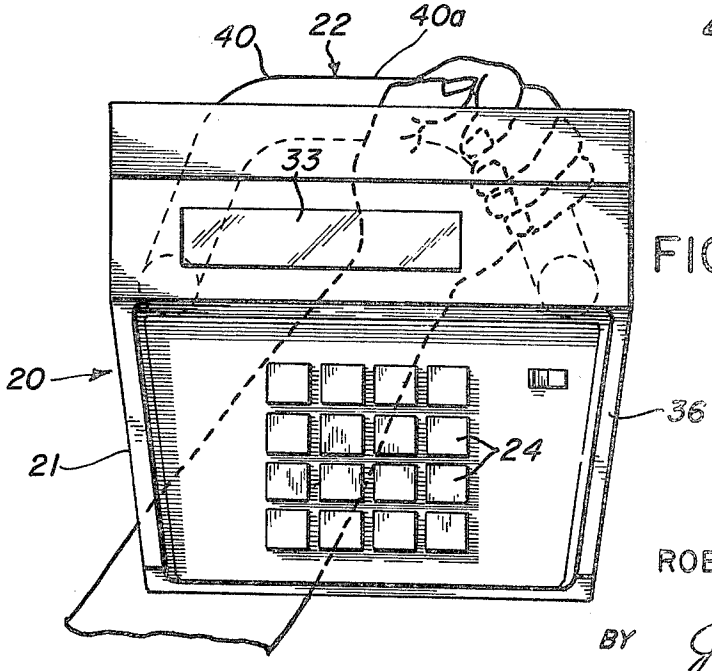


FIG-3

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ATTORNEY

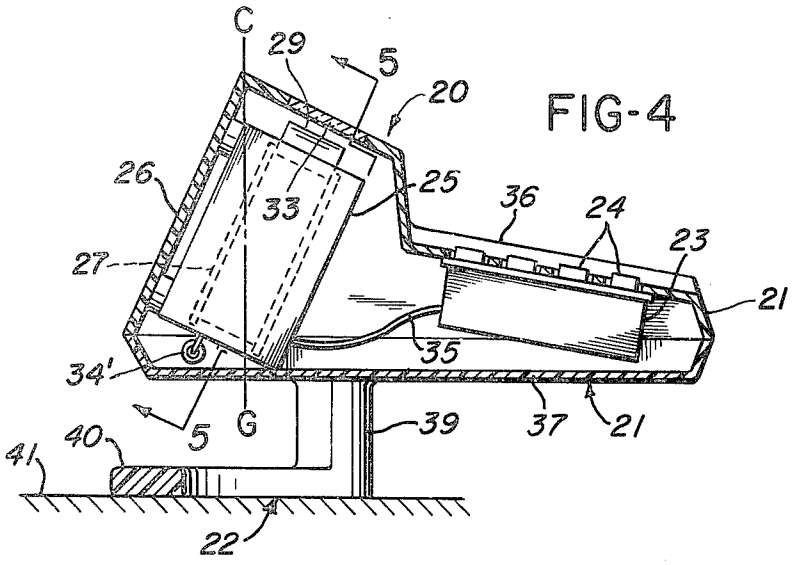


FIG-4

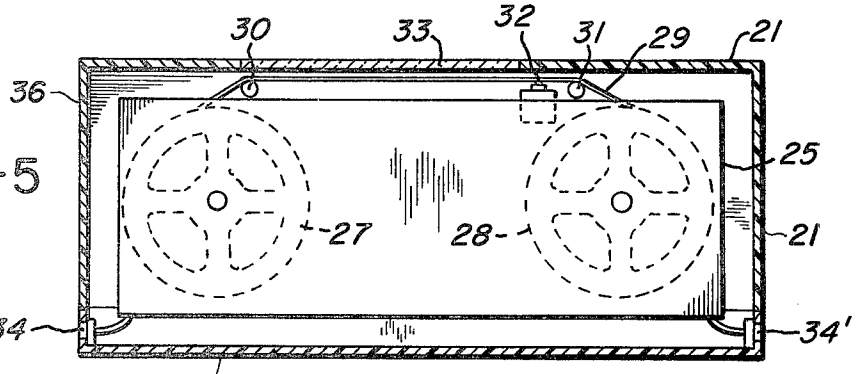


FIG-5

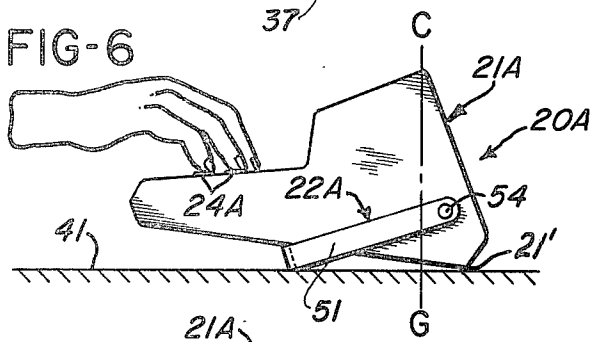


FIG-6

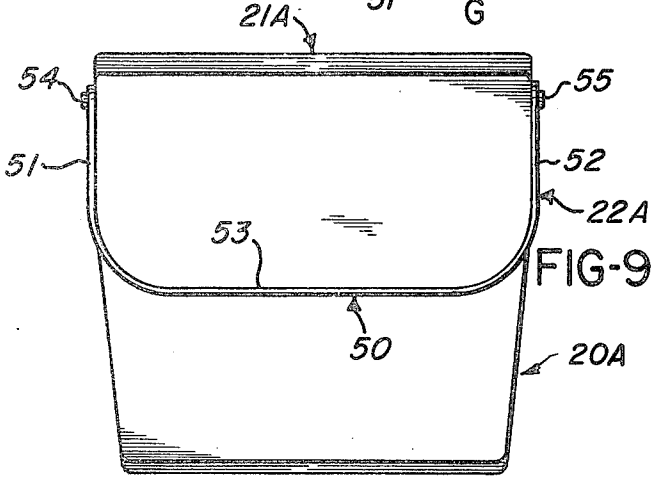


FIG-9

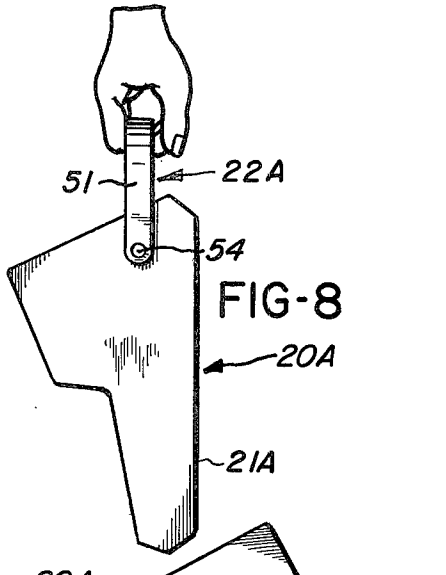


FIG-8

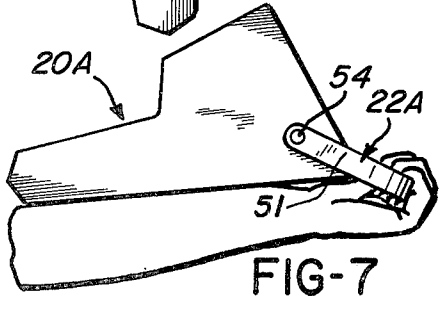
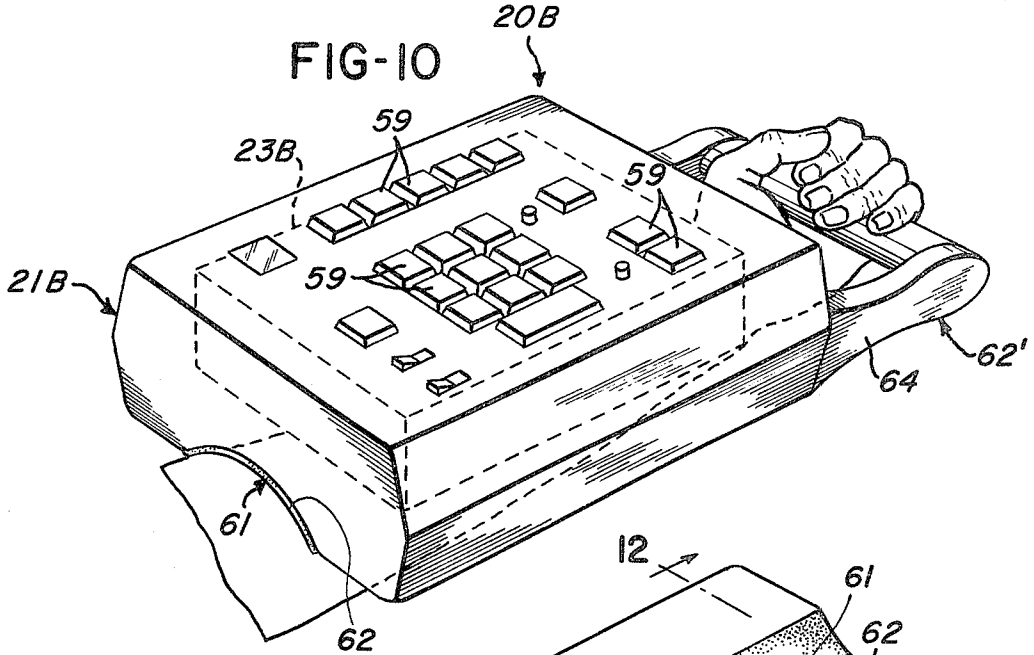


FIG-7

FIG-10



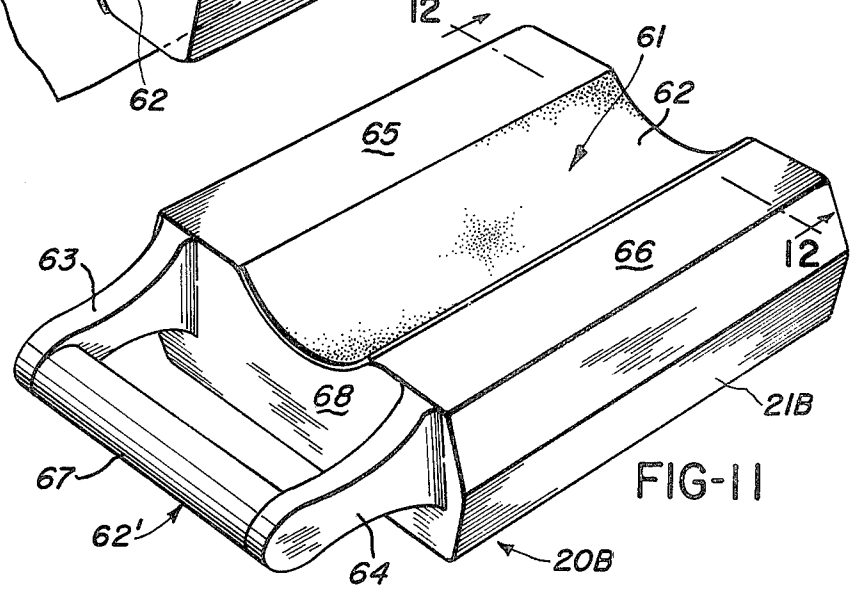


FIG-11

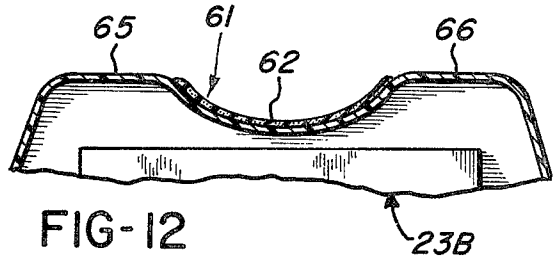


FIG-12

PORTABLE DATA SET

FIELD OF THE INVENTION

This invention relates to the art of portable data sets.

SUMMARY OF THE INVENTION

The invention resides in relatively simple, lowcost, convenient packaging for a portable data set. Specifically, there is provided a convenient combination of structure for carrying, holding, and supporting the data set. The invention includes the provision of a curved handle which is longer than the width of the user's hand to enable the user to grasp or grip it at a selected comfortable position; specifically, the handle is relatively long and is curved to a considerable extent so that the set can be supported and held either by the user's left arm and left hand enabling the keyboard to be operated by his right hand, or by the user's right arm and right hand enabling the keyboard to be operated by his left hand. In one embodiment the carrying and supporting member is rigidly mounted to the housing and in another embodiment it is pivotally mounted. In each of these embodiments, however, the carrying and supporting member can be used to mount or at least partly mount the data set on a supporting surface by means of support at three points. In still another embodiment, a handle extends outwardly from one side of the housing and the lower or bottom of the housing has an elongated recess, extending generally toward the handle, which is illustrated as conforming somewhat to the shape of the user's arm.

BRIEF DESCRIPTION OF THE DRAWING FIGURES

FIG. 1 is a perspective view of a portable data set in accordance with the invention;

FIG. 2 is a top plan view of the portable data set shown in FIG. 1, showing the data set held by the user's right hand;

FIG. 3 is a top plan view of the portable data set shown in FIG. 1, showing the data set held by the user's left hand;

FIG. 4 is a sectional view taken along the line 4—4 of FIG. 2;

FIG. 5 is a sectional view taken along the line 5—5 of FIG. 4;

FIG. 6 is a side elevational view of an alternative embodiment of the invention showing the portable data set supported on a supporting surface;

FIG. 7 is a side elevational view of the portable data set shown in FIG. 6 but showing the data set supported and held by the user's arm and hand;

FIG. 8 is a side elevational view of the data set, also shown in FIGS. 6 and 7, being hand carried;

FIG. 9 is a bottom plan view of the data set also shown in FIGS. 6, 7 and 8;

FIG. 10 is a perspective view of yet another embodiment of the portable data set shown supported and held by the user's arm and hand;

FIG. 11 is a perspective view showing the underside of the portable data set also shown in FIG. 10; and

FIG. 12 is a fragmentary sectional view taken generally along line 12—12 of FIG. 11.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the embodiment of FIGS. 1–5, there is illustrated a portable data set generally indicated at 20. The data set 20 includes an assembly with a housing 21 and a carrying and supporting means 22. Mounted in the housing 21, as best shown in FIGS. 4 and 5, is a keyboard transmitter or keyboard unit 23 housing a plurality of manually operable data and function keys 24 for generating data and function signals and a printer 25 mounted to the rear wall 26 of the housing 21. The printer 25 is illustrated as being a tape printer having a pair of tape reels 27 and 28. Paper tape 29 is shown wound on the reels 27 and 28 and passes over guides 30 and 31. The message is printed on the tape 29 by printing means 32, and the printed message is visible through a window 33 in the housing 21. The printer 25 can be connected to a data storage unit (not shown) which can be disposed within the housing 21. The printer 25 can be connected to a suitable input device such as a hand-held scanner (not shown). The scanner can be provided with a cord (not shown) which can be plugged into either a connector 34 on one side of the housing 21 or a connector 34′ on the other side of the housing 21, providing an input signal to the printer 25 or storage unit. The keyboard 23 is connected to the printer 25 by conductors 35 (FIG. 4).

The housing 21 is formed of a plastic shell having shell sections 36 and 37 which can be formed by any suitable process such as molding or vacuum forming. The carrying and supporting means 22 is shown to include a pair of posts 38 and 39 suitably joined to the lower shell section 37 of the housing 21. The posts 38 and 39 are joined integrally with member or handle 40. The carrying and supporting means 22 provides not only a handle by which the data set 20 can be conveniently gripped by the user during use and carried while not in use, but it serves in addition as a pedestal by which the data set 20 can be supported on a supporting surface 41. The posts 38 and 39 are disposed at a considerable distance from each other being located near the left and right sides of the housing 21. The member 40 is generally curved in construction so that the data set 20 can be held at any selected comfortable position relative to the user. As shown in FIG. 2, the underside of the housing 21 is supported by the user's right arm and the member 40 is gripped by his right hand; the keys 24 of the keyboard unit 23 can be operated by the user's left hand. If the user desires to adjust the relative position of the data set 20 he merely shifts his hand along the member 40 and grips it at a different location. As shown in FIG. 3, the housing 21 is supported by the user's left arm and the member 40 is gripped by his left hand at a selected comfortable position so that the keys 24 can be operated by his right hand. As is evident from the drawing FIGS. 2 and 3, the member 40 is considerably longer than the width of the user's hand so that the user can grasp the member 40 at a wide variety of positions or locations along its curved length. In addition, the handle 40 can be used to carry the data set 20 at the user's side.

The carrying and supporting means 22 is also useful in supporting the data set 20 on a supporting surface 41 or the like. The position at which the posts 38 and 39 are secured to the housing 21 depends upon the center of gravity of the data set 20. As best shown in FIG. 4,

the center of gravity of the data set **20** is disposed along a vertical line C–G. Three-point support is provided, one of the points being at the post **38**, another point being at the post **39**, and the remaining point being at the intermediate section **40***a* of the handle or member **40**.

Referring to the embodiment of FIGS. **6–9**, the portable data set **20A** has a housing **21A** which is identical to the housing **21** in the embodiment of FIGS. **1–5**, but the carrying and supporting means **22A** is substantially different from the carrying and supporting means **22**.

The carrying and supporting means **22A** is shown to comprise a curved member or handle **50** having generally parallel portions **51** and **52** joined by a curved intermediate or bight portion **53**. The handle **50** is curved in the same sense as the handle **40** in the embodiment of FIGS. **1–5** so that it can be conveniently supported and gripped by either the user's left hand or his right hand in the manner illustrated in FIGS. **2** and **3**. The parallel portions **51** and **52** are pivotally mounted by posts or pins **54** and **55** rigidly connected to the housing **21A** at one side of the center of gravity which is located along line C–G in FIG. **6**. As indicated above, the data set **20A** can be supported and held by the user's arm and hand (FIG. **7**), or it can be carried as indicated in FIG. **8**, or it can rest on a supporting surface **41**, as indicated in FIG. **6**. In FIG. **6**, the carrying and supporting means **22A** is shown to contact the supporting surface **41** and the underside of the housing **21A**. As the center of gravity of the data set **20A** is disposed between the line of contact **21'** where the housing **21A** rests on surface **41** and the plane where the bight **53** of the carrying and supporting means **22A** contacts the surface **41**, the data set **20A** has considerable stability and the keys **24A** can be operated without tipping the data set **20A**.

In the embodiment of FIGS. **10, 11**, and **12**, the portable data set **20B** includes a housing **21B** containing a keyboard transmitter or unit **23B** with a variety of data and function keys and switches **59**. A data storage unit (not shown) can form part of the keyboard unit **23B**, if desired. The data set **20B** includes a housing **21B** having an elongated recess or channel **61** at its lower surface. A thin pad **62**, composed for example of sponge rubber or other resilient material is secured in the recess **61**. The recess **61** extends lengthwise along the entire length of the housing **21B** toward a handle **62'**. The underside of the housing **21B** has relatively flat surfaces **65** and **66** disposed on opposite sides of the recess **61**. The handle **62'** can be of one-piece molded construction, if desired, having arm or bracket portions **63** and **64** secured to the lower portion of the housing **21B**. The ends of a handle portion **67** are joined to the bracket portions **63** and **64**. The handle portion **67** is disposed parallel to, but at a convenient distance apart from end wall **68** of the housing **21B**, so that while the housing **21B** is supported by the user's arm, received in the recess **61**, the user's hand can grip the handle **62'** in the manner illustrated in FIG. **10**. When not in use, the data set **20B** can be conveniently carried by means of the handle **62'** in a manner as illustrated in FIG. **8**.

By way of example, not limitation, the entire portable data set **20** in the embodiment of FIGS. **1** through **5** weighs about **3.4** pounds, with the keyboard transmitter **23** and the printer **25** together comprising about **2.3** pounds, the housing **21** being constructed of fiberglass.

Other embodiments and modifications of this invention will suggest themselves to those skilled in the art, and all such of these as come within the spirit of this invention are included within its scope as best defined by the appended claims.

I claim:

1. A portable data set comprising an assembly having a housing, a keyboard mounted by said housing, and a handle connected to said housing, said housing having an elongated recess in its lower surface extending toward said handle, said recess being shaped to receive the user's arm, the set being capable of being supported on the arm of the user while at the same time the handle is capable of being gripped by his one hand and the user is able to operate the keyboard with his other hand.

2. A portable data set comprising an assembly having a housing, a keyboard mounted in the housing, means for providing an elongated recess at the underside of the housing to receive the user's arm, and a handle connected to the housing, the handle having a handle portion spaced from the housing and disposed beyond the recess means so that the user can grip and handle portion with one hand while the housing rests on his one arm and so that the user can operate the keyboard with his other hand.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 3,884,342

DATED : May 20, 1975

INVENTOR(S) : Robert P. Mulholland

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 3, line 32, "plane" should be --place--.
Column 4, line 42, "and" should be --the--.

Signed and Sealed this

thirtieth Day of *September 1975*

[SEAL]

Attest:

RUTH C. MASON
Attesting Officer

C. MARSHALL DANN
Commissioner of Patents and Trademarks