United States Patent

Hepner

[15] **3,648,394**

[45] **Mar. 14, 1972**

[54] KEYTOP STRUCTURE

[72] Inventor: **Neal Hepner**, Birmingham, Mich.

[73] Assignee: **Burroughs Corporation**, Detroit, Mich.

[22] Filed: **Jan. 12, 1970**

[21] Appl. No.: **1,997**

[52] **U.S. Cl.**.....**40/331**, 197/102

[51] **Int. Cl.**.....**G09f 3/08**

[58] **Field of Search**.....40/331, 332, 315, 319, 2; 197/102, 103, 104; 235/145, 146; 178/110

[56] **References Cited**

UNITED STATES PATENTS

3,410,247 11/1968 Dronberger.....40/331 X

FOREIGN PATENTS OR APPLICATIONS

986,818 4/1951 France.....197/102

423,835 5/1967 Switzerland.....197/102

Primary Examiner—Robert W. Michell

Attorney—Kenneth L. Miller and Edwin W. Uren

[57] **ABSTRACT**

A keytop for the keys of business machines, the keytop being of sectional construction comprising a base, a removable transparent cap and a removable key identification marker held by and between the base and the removable cap.

3 Claims, 5 Drawing Figures

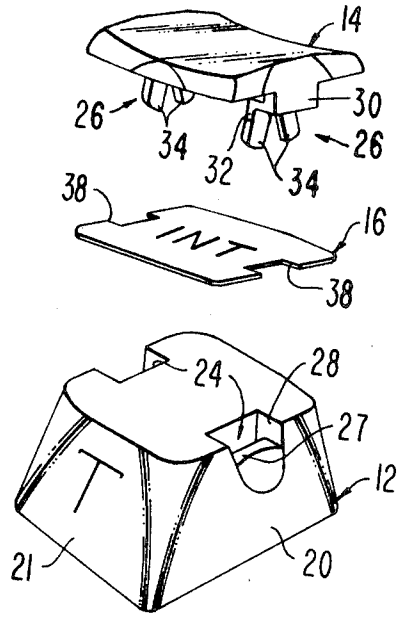


FIG.1

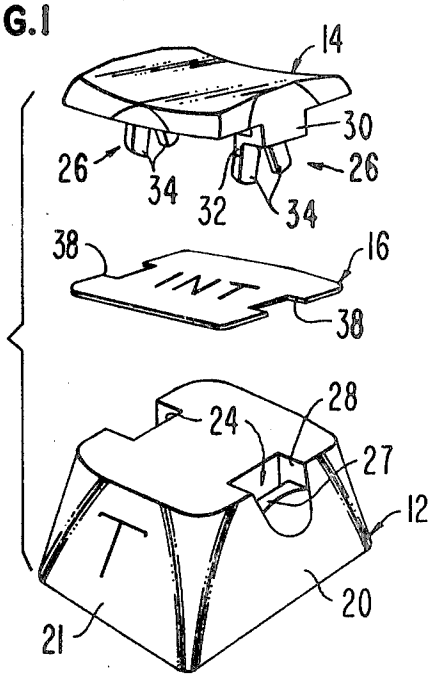


FIG.2

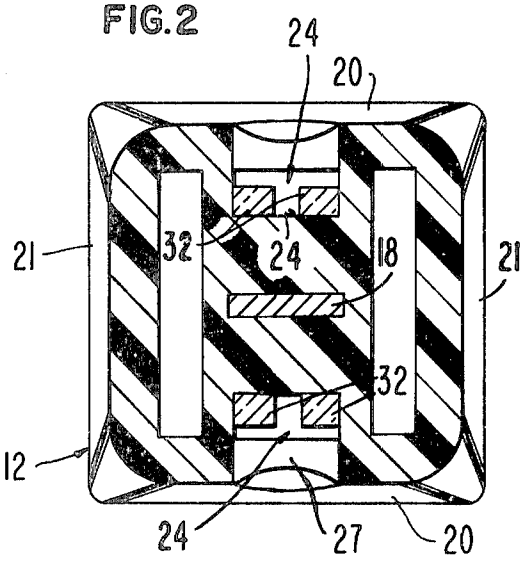


FIG.3

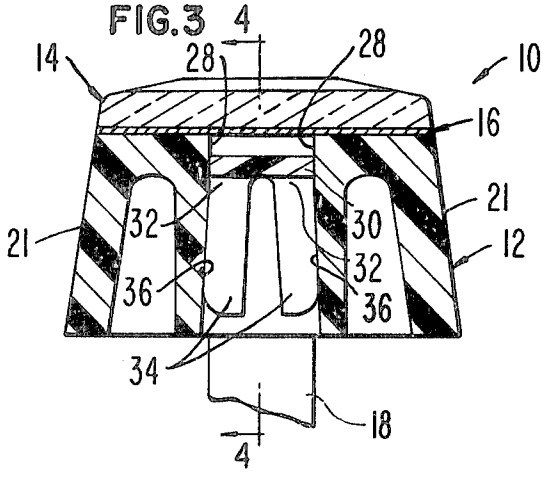


FIG.5

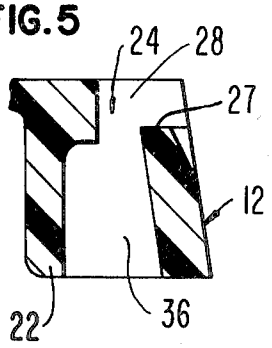
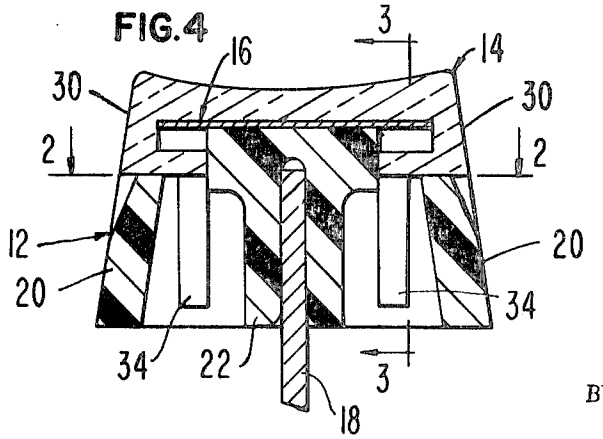


FIG.4



INVENTOR.
NEAL HEPNER

BY

ATTORNEY

KEYTOP STRUCTURE

SUMMARY OF THE INVENTION

The invention resides in the provision of a sectionally constructed keytop such that the removable key identification marker can be readily replaced.

In certain electronic accounting machines, the programming of the machine is designed so that it can be readily altered to provide a program or programs other than the basic programs. For example, electrical connections provided in such machines make it possible to initiate an altered program to achieve a certain desired machine function by the depression of an alpha key or a numeric key, normally used for typing. However, when such an altered program is effected, the marker or symbol of the converted alpha or numeric key, as the case may be, is not indicative of the function performed by depression of the key which is, of course, confusing and inconvenient to the operator.

Accordingly, the principal object of the invention is to provide for holding a removable key identification marker between a keytop base and a transparent cap by readily releasable snap-in fasteners received within the keytop base.

In the drawings:

FIG. **1** is an exploded perspective view of the keytop structure, embodying features of the invention;

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

FIG. **3** is a vertical sectional view, taken along the line **3—3** of FIG. **4**;

FIG. **4** is a vertical sectional view, taken along line **4—4** of FIG. **3**; and

FIG. **5** is a fragmentary vertical sectional view.

With reference to the drawings, the keytop **10** comprises in general a base **12**, a transparent cap **14** and a key identification marker **16**. The cap **14** is releasably attached to the base **12** and the key identification marker **16** is held by and between the base and the cap. The base **12** is to be secured onto a stem **18** of a key of a business machine keyboard (not shown).

The base **12** is preferably made of a suitable opaque plastic material which may be molded in the form of a truncated quadrilateral pyramid. The sides of the base **12**, as at **20** and **21**, surround a centrally located web **22** which depends from the top of the base, the web having a vertical aperture to receive an upper end portion of the keystem **18**. Through the top of the base **12** there is provided a pair of vertically extending apertures **24** to receive respectively a pair of latch members or snap-in fasteners **26** provided on the underside of the cap **14**. The apertures **24** are oppositely disposed respectively to the opposite sides **20** of the base and open through the sides **20**, recessing the sidewalls, as at **27**. The apertures **24** are preferably rectangular, as seen in cross section, and are defined in part by parallel end surfaces **28** of the rectangular apertures to provide a pilot for the latch members **26**. The recesses, as at **27**, formed in opposite sides **20** of the base **12** provide access for digitally gripping the closure member portion of the cap **14** to facilitate the manual removal of the latter, thereby freeing the key identification marker **16**.

Preferably the removable cap **14** is formed by a molding operation and may be made of any suitable transparent plastic material, such as polycarbonate, or an acrylic plastic, such as LUCITE. The cap **14** and the snap-in fasteners **26** are molded

integrally, the fasteners being oppositely disposed respectively adjacent opposite ones of opposite edges of the cap. At these edges, the cap **14** is formed with depending closure members or lugs **30** which position in the apertures **24** and function as guide members to align the cap properly with the base **12**. Integral with the lugs **30** and offset inwardly from the edges of the cap **14** are downwardly extending portions **32** having opposite parallel edges which fit into the apertures **24**, and depending downwardly from each portion **32** there is a pair of diverging resilient or spring fingers **34**. The opposite outer edges of the fingers **34** engage diverging end surfaces **36** of the apertures **24** to releasably hold the cap **14** to the base **12**. Thus, the diverging end surfaces **36** of the apertures function as keepers for the fingers **34**. It will be apparent that when the fingers **34** enter the restricting pilot defined by the surfaces **28**, the fingers **34** are flexed toward each other and are tensioned such that when they clear the pilot the tensioned fingers flex outwardly against the diverging end surfaces **36**.

The key identification marker **16** is a thin slip of sheeting which may be made of any suitable material including paper and has two oppositely disposed pairs of ears, each pair defining a notch **38**, edges to receive the lugs **30** of the cap, the effective orientation of the marker between the cap and base members being thereby defined. A symbol for identifying the function performed by depression of the key is provided and, in the present instance is "INT" an abbreviation for "Interest." This, of course, indicates to the operator that by depression of the key a machine operation may be initiated to calculate the interest due in a particular business transaction. Preferably, the normal function of the key is identified on the front face of the key top base **12** by a symbol which is indicated by the letter "T."

What is claimed is:

1. A sectionally constructed keytop structure for use in business machine keyboards comprising:

a transparent cap member having resilient latch elements extending therefrom, said latch elements being two oppositely disposed pairs of diverging spring fingers;

a removable key identification marker; and

a base member securable to a keyboard keystem and having a pair of oppositely disposed apertured recesses defined in part by oppositely disposed diverging surfaces constituting keepers, said spring fingers being removably insertable into said apertured recesses and being squeezably displaced by said keepers for releasable retainment therebetween, said cap member being thereby held effectively against said base member, said key identification marker being held by and between said cap and base members, said recesses additionally providing access for digitally gripping effective portions of said cap member, thereby facilitating the manual removal of said cap member from said base member.

2. A sectionally constructed keytop structure as defined by claim **1** wherein said removable key identification marker has two oppositely disposed pairs of ears, each pair defining a notch to receive an associated pair of said spring fingers, the effective orientation of said marker between said cap member and said base member being thereby defined.

3. A sectionally constructed keytop structure as defined by claim **2** wherein said pairs of spring fingers are laterally offset inwardly from the periphery of said cap member.

* * * * *