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KEY DISPLAY DEVICE

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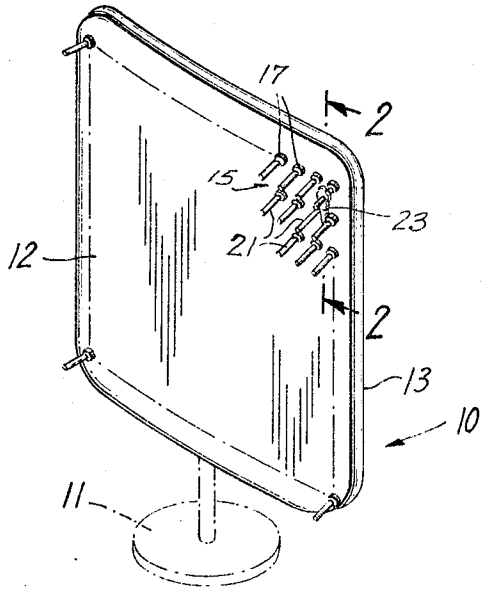
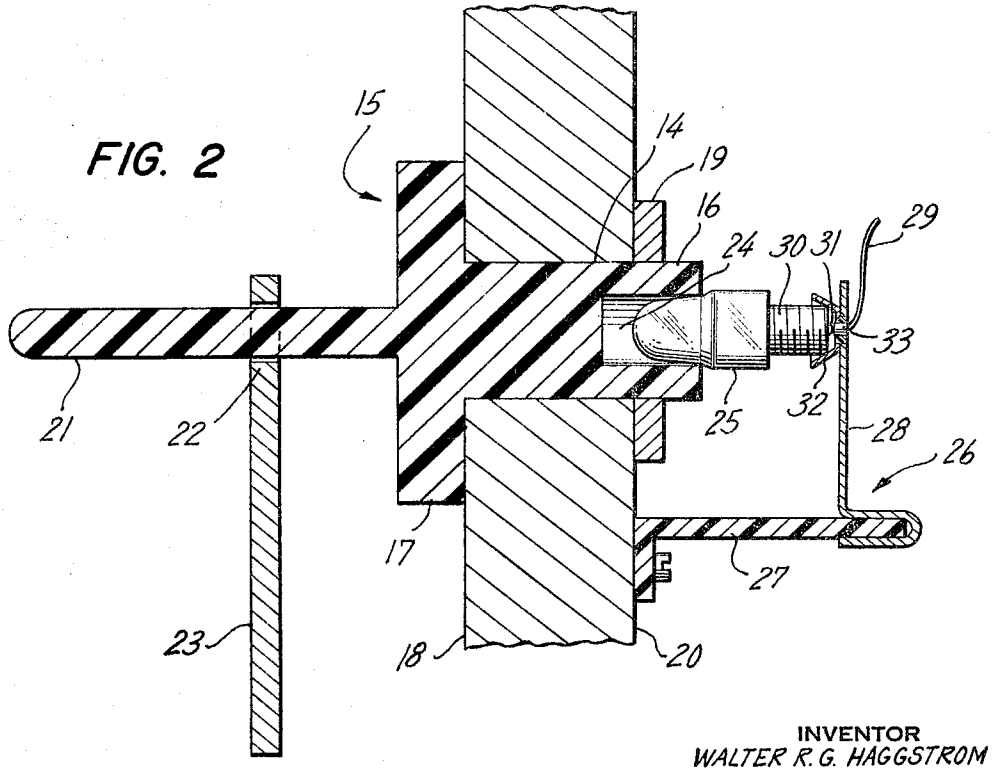


FIG. 1

FIG. 2



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KEY DISPLAY DEVICE

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This invention relates to a key blank display device of the type used in key cutting establishments. More particularly, this invention relates to a key display device and key support means therefor.

Still more particularly, this invention relates to an illuminated key display board having novel selector support means for the key blanks whereby each type of variety of key blank is supported on a different support member, each of the support members being provided with individual illuminator means whereby, when a particular circuit corresponding with a particular type of blank is closed, the support means carrying said particular blank will be illuminated, readily indicating the location of the support carrying the appropriate blank.

Accordingly, it is an object of this invention to provide a novel key display board.

A further object of the invention is the provision of a novel illuminated key support for use in combination with a board of the type described.

Still a further object of the invention is the provision of a novel key identification display board and support means therefor having particular utility when employed with a key identifier device of the type illustrated in copending application Serial No. 215,956, filed August 9, 1962, now Patent No. 3,172,969.

In the above noted application, there is disclosed a device which automatically closes a selected circuit in response to the identity of an inserted key. This device is of great utility since keys of many hundreds of differing cross-sections must be regularly stocked in locksmithing establishments and the said device enables an unskilled operator readily to determine the identity of a key submitted by a customer for purposes of duplication.

The present key display device relates to a key display board having a plurality of plastic light conductive key support members. Individual circuits lead to individual illuminating means disposed within the plastic supports. The illuminating means are located to one side of an opaque board. To the opposite side of such board there are projected probe-like plastic extensions, crosssectionally dimensioned to permit the latter to be inserted within the apertures customarily formed in the heads of key blanks. When the proper circuit is closed, the illuminating means transmits light along the length of the plastic member transversely through the board and to the tip of the probe-like member, thereby immediately and strikingly rendering the appearance of the illuminated key support peg or probe distinct from all others, thus enabling a key corresponding to the closed circuit to be selected rapidly.

While the hereinafter described display board is particularly adapted to be used with the automatic key identifier device of the above noted application, it will be readily understood that the device may be advantageously employed with any comparable device for closing a selected circuit corresponding to a particular key.

To attain these objects and such further objects as may appear herein or be hereinafter pointed out, reference is made to the accompanying drawings forming a part hereof, in which:

FIGURE 1 is a perspective view of a display stand in accordance with the invention;

FIGURE 2 is a magnified section taken on the line 2—2 of FIGURE 1.

In accordance with the invention, there is disclosed a stand **10** carried by support base **11**. A board **12**, preferably opaque, is supported within frame **13** made fast to the base **11**. The board may be of any suitable configuration, as will be readily understood. A multiplicity of apertures **14** are formed transversely through the board. Within each of the apertures there is disposed a key support member **15** of a light transmitting plastic material. One suitable material is methyl methacrylate, which material has the property of transmitting a light lengthwise of the material even along curved paths. Other materials having the property of lengthwisely transmitting light may be suitably employed.

The support **15** includes a generally cylindrical body portion **16** extending transversely through apertures **14**. A boss **17** is formed on the body portion and when the body portion **16** is passed through an aperture, the boss **17** lies adjacent the front face **18** of the display board. The support **15** is maintained in this position by the rearward application over the body portion **16** of a spllit spring washer **19** which abuts the rear face **20** of the display board **12**.

Extending forwardly of the boss **17** there is an integral probe member **21**, preferably of cylindrical cross-section. The cross-sectional dimension of the probe **21** is such as to permit the same to be inserted within the key ring aperture, such as is customarily formed in the head portions of the keys and key blanks **23**.

The body portion **16** is preferably formed with an axially extending recess **24**, and a bulb **25** may be supported within the recess **24** by a conductive spring support assembly **26**. The support assembly **26** may optionally be formed of insulating bracket **27**, made fast to the board and carrying the electrically conductive portions of the apparatus. These portions include conductive spring contact **28**, which in the illustrated embodiment constitutes a common or ground contact, which additionally supports live or positive conductor **29**.

A bulb **25**, in the usual manner, includes a contact base **30**, including an insulated filament terminal **31**. The connections to the terminals **30**, **31** of the base may be provided by the cup-shaped retainer portion **32** carried by the common connector **28** which makes contact with the terminal **30** and the insulated live terminal **33** which is carried on the spring contact **28** but electrically isolated therefrom, the terminal **33** being pressed against the contact **31** of the bulb.

It will be recognized that by the above arrangement, a bulb may be inserted or replaced by the simple expedient of backwardly flexing the spring contact **28** to a position clear of the base portion of the bulb. It will be recognized further that the suggested means for carrying the bulb **25** may be replaced by any desired bulb supporting and contact making means, such as a standard screw socket or the like.

In use, key blanks **23** are stacked on the probe portions **21** of the supports **15**, it being understood that, in the usual manner, each such probe is charged with a series of identical key blanks of a type differing from the blanks mounted on the other probes.

It will be further understood that each support includes a bulb which is individually wired so that, upon completion of the circuit through the bulb, the entire support will be illuminated. By reason of the use of the light conductive plastic material, the illuminated probe assumes a striking appearance and it is possible immediately to identify the specific probe carrying the desired key blanks.

Further, the spacing between the supports may be kept

to a minimum, so that a large number of key supports may be mounted on the same board. In contrast, if the probes themselves were not illuminated, and if attempts were made to place bulbs adjacent a series of usual key supports, it would be necessary to space the supports further from each other since, in the case of too close a grouping, it would be difficult to determine which support was designated by an illuminated bulb. In the present device, the probe itself, which is threaded through the aperture in the key head, is illuminated, thus eliminating any doubt as to the designated series of key blanks.

A further advantage in the present device lies in the provision of the enlarged boss **17**, which is disposed directly behind the heads of the keys mounted on the probe. When the bulb **25** is illuminated, the entire face of the boss **17** also appears to be illuminated, and this illuminatioin clearly silhouettes the head of the key on the probe. Since the head shapes of keys generally vary in appearance in accordance with the type or milling of the key, the rear lighting indicating the silhouette shape is a factor which provides a double-check on the accuracy of the selection as the headshape of a proper replacement blank will closely simulate the shape of the original key.

From the foregoing it will be recognized that an attractive and useful dispaly device has been provided which greatly facilitates the selection of a key blank by reducing the time normally required in examining the numbers or identification markings of keys stored on a key board. Since the key support itself is illuminated, it is posible to stack groups of keys in very closely adjacency, enabling a large number of key types to be displayed within a small area.

Having thus described the invention and illustrated its use, what is claimed as new and is desired to be secured by Letters Patent is:

1. A key blank selector device comprising an opaque display board, a multiplicity of apertures formed in said board, integral key blank holder means of light conductive plastic mounted in said apertures of said board including a body portion extending transversely through said board, a boss forming a continuation of said body portion and lying adjacent the front face of said board, a key support probe extending outwardly from said boss, said probe being of a cross-sectional dimension to permit the same to pass through the aperture defined in the head of a key blank, locking means adjacent the rear face of said board engaging said body portion, and illuminator means disposed in light transmitting relation with respect to the body portion of said holder means, said boss serving to silhouette the head portions of keys on said probe, thereby to facilitate selection of a key.

2. A key blank selector device comprising an opaque display board, a multiplicity of horizontally and vertically spaced apart apertures in said board, a plurality of integral key blank holder means of light conductive plastic mounted in said apertures, said holder means including a body portion extending transversely through said board, a boss of greater diameter than said apertures and lying adjacent the front face of said board, and a key support probe extending outwardly from said boss, key blanks supported on said probe portions of said holder means with the probe portion thereof extending through the key ring aperture of said blanks, and illuminator means on the side of said board remote from said probe portions for illuminating said holder means and hence said probes.

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