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(54) **Shield and control mechanism assembly**

Schild und Kontrollmechanismuseinheit

Ecran et ensemble de mécanisme de commande

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Description

[0001] The invention relates to an assembly for protecting user operated controls while ensuring that the controls are visible to the user. Such user operated controls may be present on any user operated device. The controls and devices may, for example, include volume or tone controls for an electronic device, temperature settings for an iron, timer for a toaster or oven, power settings for a mixer or blender, or any other user operated controls which occupy a limited space on the associated device.

[0002] A device of this kind is disclosed, for example, in DE 30 05 457 A1.

[0003] Control mechanisms on user operated devices are often difficult to read. Product design and size often limit the space available for providing information to a user.

[0004] Common methods of providing user indications include providing a raised dot, an arrow, or a line to indicate the selected setting. These indicators are sometimes printed in a colour contrasting with the colour of the background.

[0005] Generally, the graphics related to the control mechanism are printed directly on the control mechanism and/or associated controlled device. Accordingly, the graphics are not protected and eventually are damaged through wear.

[0006] An object of the invention is to protect the graphics related to a user operated control mechanism.

[0007] A further object of the invention is to enhance the visibility of a user-selected setting.

[0008] In order to achieve the objective of protecting the graphics, a shield is provided to protect the graphics related to a control mechanism.

[0009] The present invention provides a shield for a user operable control mechanism having a plurality of graphically displayed control setting options, the shield comprising:

- a main portion for covering a substantial portion of the user operable control mechanism and all of the control setting options; and
- a magnifying section within the main portion, wherein the magnifying section is positioned and sized for magnifying only one control setting option selected by the user at a time.

[0010] A first embodiment of the invention includes a control assembly having a manually operable control mechanism with a plurality of graphically displayed control setting options selectable by a user. A shield for the control mechanism includes a main portion for covering a substantial portion of the control mechanism and all of the control setting options, and an indicator portion having a magnifying section that is positioned and sized for magnifying only one control setting option selected by the user at a time.

[0011] In an alternative embodiment, the invention comprises an iron with a control assembly. The assembly includes a temperature control mechanism protected by a shield. The shield includes a main portion and an indicator portion with magnification capabilities.

[0012] The invention will now be further described with reference to the accompanying drawings, in which:

Figure 1 is a front elevational view of an embodiment of the shield and control mechanism;

Figure 2 is a side view of the embodiment of the shield shown in Figure 1;

Figure 3 is a sectional view along line A-A of the embodiment shown in Figure 1;

Figure 4 is a perspective view of the embodiment of Figure 1 incorporated on an iron;

Figure 5 is a perspective view of an alternative embodiment of the covering and control mechanism;

Figure 6 is a front elevation of a further alternative embodiment of the covering and control mechanism; and

Figure 7 shows a further embodiment in which the covering functions as the control mechanism.

[0013] Figure 1 is a front elevation view of an embodiment of the invention. A shield 1 covers control mechanism 6. The shield includes a main portion 2. In the embodiment illustrated, the main portion is translucent or transparent so that control setting options 7 can be viewed through main portion 2. Shield 1 also includes a magnifying section 4. The magnifying section 4 is sized such that it magnifies only the setting selected by the user.

[0014] The shield also includes peripheral portions 3a and 3b, which are ribbed in the embodiment illustrated. Attachment areas 5b and 5a allow the covering to be attached to the controlled device (not shown in Figure 1). The attachment areas are disclosed in detail below with reference to Figure 2.

[0015] The control mechanism 6 of Figure 1 is a rotatable dial with a plurality of control settings 7. The shield 1 covers all of the settings to protect the graphics from wear. However, the user can easily access the edges of control mechanism 6 in order to rotate it and change the setting. Shield 1 therefore remains stationary, while the control mechanism 6 is rotated by the user to select a setting.

[0016] Figure 2 is a side view of the shield illustrated in Figure 1. From Figure 2, the domed or bubble shape of the magnifying section 4 can be seen. The bubble acts as an indicator of the user-selected setting. Both the bubble shape and the magnification capability enhance visibility. Base 6 connects with the main portion 2 of the covering 1 and with peripheral portions 3a and 3b. The substantially elongated shape of the shield is designed to protect the graphics while maximising the visibility of the full range of settings. Attachment portions 5a and 5b extend from peripheral portions 3a and 3b. In

Figure 2, attachment portion 5a is a hook mechanism and attachment portion 5b is a snap portion. These mechanisms are matched with attachment mechanisms in the control device 10. However, the particular method of attachment depends upon the selected device. The method of attachment may include, but is not limited to adhesive, friction fit, detent mechanism, or screws.

[0017] Figure 3 is a sectional view along the line A-A of Figure 1 of the shield in conjunction with the control mechanism 6. Attachment portions 5a and 5b extend beyond the edges of control mechanism 6. In the embodiment illustrated, the shield has a convex shape such that the main portion 2 of shield 1 extends slightly above magnifying portion 4. The distance between the raised bubble and the control mechanism should be selected to maximise visibility.

[0018] Figure 4 illustrates the control mechanism 6 and shield 1 attached to a controlled device 10. The attachment is made, as explained above, by attachment portions 5a and 5b. In the embodiment illustrated, the shield 1 and control mechanism 6 are attached to iron 10.

[0019] The control mechanism 6 and covering 1 may be provided on any user operated device 10. The controls and devices may, for example, include volume or tone controls for an electronic device, temperature settings for an iron, timer or temperature setting for a toaster or oven, power settings for a mixer or blender, or any other user operated controls which occupy a limited space on the associated device.

[0020] Figure 5 illustrates an alternative embodiment in which control mechanism 6 is a sliding bar mechanism. Shield 1 has a modified rectangular shape and includes magnifying section 4. In operation, control mechanism 6 is slid under shield 1 and the user selected setting is magnified under magnifying section 4.

[0021] Figure 6 illustrates an alternative embodiment in which the control mechanisms 6 are rotatable dials and the covering 1 is rectangular and includes two magnifying sections 4. Of course, this configuration could be adapted to accommodate any number of control mechanisms.

[0022] In the embodiments described above, it is preferred that shield 1 is formed from a transparent or translucent plastic, such that all selectable settings are visible to the user. In a preferred embodiment, a polycarbonate such as LEXAN is used to form the shield. However, any suitable materials known to those skilled in the art may be used. Alternatively, the covering may be opaque except for magnifying portion 4, such that only the selected setting is visible to the user.

[0023] Figure 7 illustrates an alternative embodiment in which the settings are printed directly on the controlled device 10. The control mechanism 6 is also a shield for the numbers printed directly on the device. The shield/control mechanism is rotatable and includes a magnifying portion 4. Accordingly, the numbers 0-6 are stationary.

Claims

1. A shield (1) for a user operable control mechanism (6) having a plurality of graphically displayed control setting options (7), the shield (1) comprising:
 - a main portion (2) for covering a substantial portion of the user operable control mechanism (6) and all of the control setting options (7); and
 - a magnifying section (4) within the main portion (2), wherein the magnifying section (4) is positioned and sized for magnifying only one control setting option (7) selected by the user at a time.
2. A shield according to claim 1, **characterised in that** the main portion (2) is translucent or transparent.
3. A shield according to claim 1, **characterised in that** the main portion (2) is opaque.
4. A shield according to any of claims 1 to 3, **characterised in that** the magnifying section (4) is bubble-shaped.
5. A shield according to any of claims 1 to 4, **characterised in that** the shield is substantially elongated.
6. A shield according to claim 5, **characterised in that** it further comprises peripheral ribbed portions (3a, 3b).
7. A shield according to claim 6, **characterised in that** the peripheral ribbed portions (3a, 3b) are connected with attachment means (5a, 5b) for attaching the shield (2) to a controlled device (10).
8. A control assembly, comprising:
 - a manually operable control mechanism (6) having a plurality of graphically displayed control setting options (7) selectable by a user; and
 - a shield (1) for the control mechanism (6), the shield comprising,
 - a main portion (2) covering a substantial portion of the control mechanism and all of the control setting options (7); and
 - an indicator portion including a magnifying section (4) that is positioned and sized for magnifying only one control setting option (7) selected by the user at a time.
9. A control assembly according to claim 8, **characterised in that** the shield (1) is a shield as claimed in any of claims 1 to 7.
10. A control assembly according to claim 8 or claim 9, **characterised in that** the control mechanism (6) is a rotatable dial.

11. A control assembly according to any of claims 8 to 10, **characterised in that** the control mechanism (6) is a temperature control.
12. A control assembly according to claim 11, **characterised in that** the temperature control is for controlling the temperature of an iron (10).
13. A control assembly according to claim 8 or claim 9, **characterised in that** the control mechanism (6) is a sliding mechanism.
14. An iron comprising a control assembly, as claimed in any of claims 8 to 13.

Patentansprüche

1. Schutzabdeckung (1) für einen vom Benutzer zu betätigenden, mehrere graphisch dargestellte Steuereinstellmöglichkeiten (7) aufweisenden Steuermechanismus (6), wobei die Schutzabdeckung (1) aufweist:

einen Hauptbereich (2) zur Abdeckung eines wesentlichen Bereichs des vom Benutzer zu betätigenden Steuermechanismus (6) und aller Steuereinstellmöglichkeiten (7) und einen im Hauptbereich (2) vorgesehenen Vergrößerungsabschnitt (4), der so positioniert und bemessen ist, dass er nur eine vom Benutzer zur Zeit ausgewählte Einstellmöglichkeit (7) vergrößert.

2. Schutzabdeckung nach Anspruch 1, **dadurch gekennzeichnet, dass** der Hauptbereich (2) durchscheinend oder durchsichtig ist.
3. Schutzabdeckung nach Anspruch 1, **dadurch gekennzeichnet, dass** der Hauptbereich (2) undurchsichtig ist.
4. Schutzabdeckung nach einem der Ansprüche 1 bis 3, **dadurch gekennzeichnet, dass** der Vergrößerungsabschnitt (4) blasenförmig ist.
5. Schutzabdeckung nach einem der Ansprüche 1 bis 4, **dadurch gekennzeichnet, dass** die Schutzabdeckung im Wesentlichen länglich ist.
6. Schutzabdeckung nach Anspruch 5, **dadurch gekennzeichnet, dass** sie ferner mit Rippen versehene Umfangsbereiche (3a, 3b) aufweist.
7. Schutzabdeckung nach Anspruch 6, **dadurch gekennzeichnet, dass** die mit Rippen versehenen Umfangsbereiche (3a, 3b) mit Befestigungsmitteln (5a, 5b) zum Anbringen der Schutzabdeckung (2)

an einem gesteuerten Gerät (10) verbunden sind.

8. Steueranordnung aufweisend:

einen von Hand betätigbaren Steuermechanismus (6), der mehrere vom Benutzer wählbare, graphisch dargestellte Steuereinstellmöglichkeiten (7) hat, und eine Schutzabdeckung (1) für den Steuermechanismus (6), die einen wesentlichen Bereich des Steuermechanismus und alle Steuereinstellmöglichkeiten (7) abdeckenden Hauptbereich (2) und einen Anzeigebereich aufweist, der einen Vergrößerungsabschnitt (4) enthält, der zur Vergrößerung nur einer vom Benutzer zur Zeit ausgewählten Steuereinstellmöglichkeit (7) positioniert und bemessen ist.

9. Steueranordnung nach Anspruch 8, **dadurch gekennzeichnet, dass** die Schutzabdeckung (1) eine Schutzabdeckung gemäß einem der Ansprüche 1 bis 7 ist.

10. Steueranordnung nach Anspruch 8 oder 9, **dadurch gekennzeichnet, dass** der Steuermechanismus (6) ein Drehwähler ist.

11. Steueranordnung nach einem der Ansprüche 8 bis 10, **dadurch gekennzeichnet, dass** der Steuermechanismus (6) eine Temperatursteuerung ist.

12. Steueranordnung nach Anspruch 11, **dadurch gekennzeichnet, dass** die Temperatursteuerung zum Steuern der Temperatur eines Bügeleisens (10) dient.

13. Steueranordnung nach Anspruch 8 oder 9, **dadurch gekennzeichnet, dass** der Steuermechanismus (6) ein Schiebermechanismus ist.

14. Bügeleisen mit einer Steueranordnung gemäß einem der Ansprüche 8 bis 13.

Revendications

1. Cache (1) pour un mécanisme de commande (6) pouvant être actionné par un utilisateur et comportant une pluralité d'options de réglage de commande (7) affichées graphiquement, le cache (1) comprenant:

une partie principale (2) pour recouvrir une partie substantielle du mécanisme de commande (6) pouvant être actionné par l'utilisateur et toutes les options de réglage de commande (7); et une section grossissante (4) située dans la par-

tie principale, (2) la section grossissante (4) étant positionnée et dimensionnée de manière à réaliser le grossissement uniquement d'une option de réglage de commande (7) sélectionnée par l'utilisateur à un instant.

2. Cache selon la revendication 1, **caractérisé en ce que** la partie principale (2) est translucide ou transparente.

3. Cache selon la revendication 1, **caractérisé en ce que** la partie principale (2) est opaque.

4. Cache selon l'une quelconque des revendications 1 à 3, **caractérisé en ce que** la section grossissante (4) est agencée en forme de bulle.

5. Cache selon l'une quelconque des revendications 1 à 4, **caractérisé en ce que** le cache est essentiellement allongé.

6. Cache selon la revendication 5, **caractérisé en ce qu'il** comprend en outre des parties périphériques nervurées (3a, 3b).

7. Cache selon la revendication 6, **caractérisé en ce que** les parties périphériques nervurées (3a, 3b) sont raccordées à des moyens de raccordement (5a, 5b) servant à raccorder le cache (2) à un dispositif commandé (10).

8. Ensemble de commande comprenant:

un mécanisme de commande (6) pouvant être actionné manuellement et possédant une pluralité d'options de réglage de commande (7) affichées graphiquement et pouvant être sélectionnées par un utilisateur; et

un cache (1) pour le mécanisme de commande (6), le cache comprenant

une partie principale (2) recouvrant une partie substantielle du mécanisme de commande et toutes les options de réglage de commande (7); et

une partie formant indicateur incluant une section grossissante (4) qui est positionnée et dimensionnée pour réaliser le grossissement uniquement d'une option de réglage de commande (7) sélectionnée par un utilisateur à un instant.

9. Ensemble de commande selon la revendication 8, **caractérisé en ce que** le cache (1) est un cache tel que revendiqué dans l'une quelconque des revendications 1 à 7.

10. Ensemble de commande selon la revendication 8 ou la revendication 9, **caractérisé en ce que** le mé-

canisme de commande (6) est un cadran rotatif.

11. Ensemble de commande selon l'une quelconque des revendications 8 à 10, **caractérisé en ce que** le mécanisme de commande (6) est une unité de réglage de température.

12. Ensemble de commande selon la revendication 11, **caractérisé en ce que** l'unité de réglage de température sert à régler la température d'un fer (10).

13. Ensemble de commande selon la revendication 8 ou la revendication 9, **caractérisé en ce que** le mécanisme de commande (6) est un mécanisme coulisant.

14. Fer comportant un ensemble de commande tel que revendiqué dans l'une quelconque des revendications 8 à 13.



