Sept. 19, 1967 R. J. TOLMIE 3,341,887

PAD GRIPPING DEVICE

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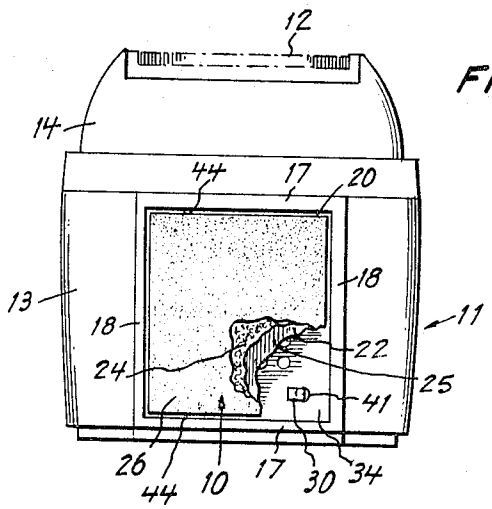


FIG. 1

FIG. 2

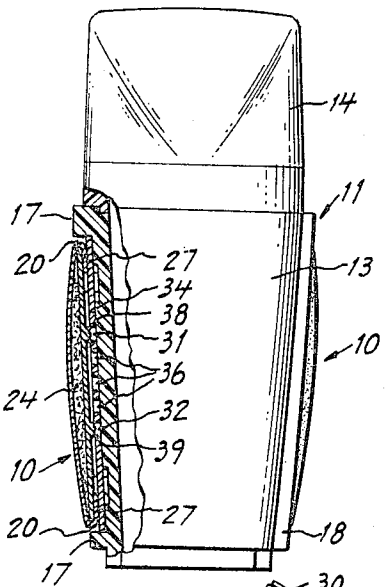


FIG. 3

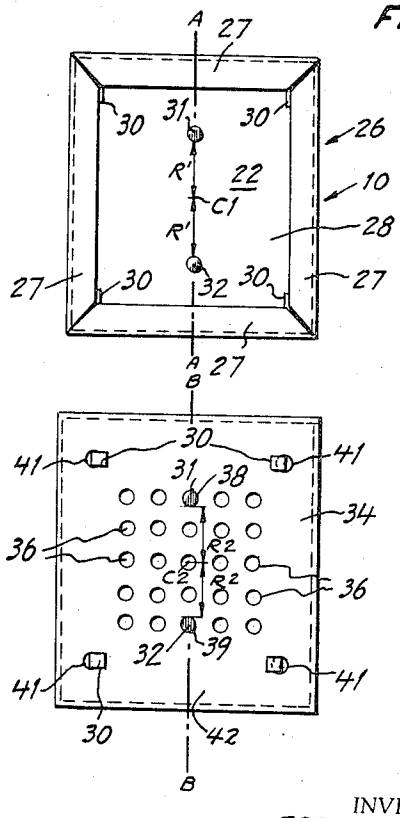


FIG. 4

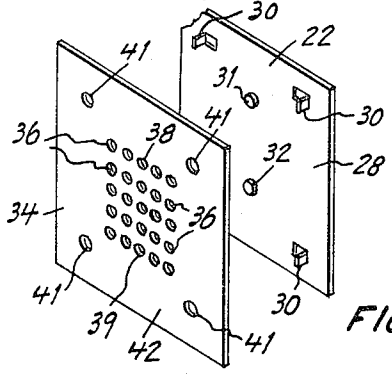


FIG. 5

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PAD GRIPPING DEVICE

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This invention relates to new and useful improvements in pad gripping devices for hand-held appliances and in the method of making and assembling pad gripping devices.

One known type of pad gripping device for a hand-held appliance comprises a pillow-like cushion member disposed on the front of a stiff backing member. A flexible cover member formed from a suitable material such as a vinyl plastic is arranged over the cushion member and is then secured to the front of the backing member. In addition means such as a suitable adhesive or a bracket member is provided to secure the assembled pad device to the surface of a hand-held device.

In a presently used electric dry shaver having a casing of hard premolded plastic, pad devices of this type are mounted on the opposite faces of the shaver casing within framing portions which delineate the finger holding areas of the shaver. In gripping the shaver, a person holds the casing within his cupped hand with his thumb embedded in one pad and the other pad gripped by other fingers of the user's hand. As a result of this arrangement the shaver is held with the minimum of effort with the users' fingers comfortably embedded in the pads reducing the possibility of the casing slipping from the grasp of the user.

Satisfactory use has been made of these known pad gripping devices, however, problems have been encountered in the manufacture and assembly thereof. Proper alignment of the respective parts of the known pad devices is hindered due to the difficulty of conforming the various parts of the pad devices, as for example the flexible cover member and inner cushion, to necessary manufacturing tolerances. The inherent tendency of these flexible members to vary in desired dimensions after cutting not only results in difficult alignment of parts but results in costly assembly procedures and detracts from the appearance of the appliance.

It is the object of the present invention to provide a novel pad gripping device for attachment to the finger holding areas of a hand-held appliance.

Another object is to provide a novel method of manufacturing and assembling a pad gripping device.

Another object is to provide novel and economical means wherein the elements of a pad gripping device are aligned in a predetermined assembled position for mounting on a hand-held appliance.

A further object is to provide a novel pad device which is readily and economically assembled.

This invention contemplates a novel pad gripping device for attachment to the casing of a hand-held appliance. The pad device includes a pillow-like cushion member comprising a layer of resilient material arranged on one face of a frame plate and which frame plate is formed to predetermined dimensions. A flexible cover member is disposed over the resilient material with peripheral marginal portions of the cover member secured to the rear face of the frame plate. Aligning means are provided on the frame plate to cooperate with aligning means provided on a supporting plate of predetermined dimension, whereby the pad device is mounted in a selected position on the supporting plate for attachment to the outer surface of a hand-held appliance.

The above and other objects and advantages of the present invention will appear more fully hereinafter from

a consideration of the detailed description which follows, taken together with the accompanying drawing wherein one embodiment is illustrated.

In the drawing:

FIG. 1 is a front elevational view of an electric shaver casing and to which casing is attached one embodiment of a pad device constructed according to the present invention;

FIG. 2 is a side elevational view of the device of FIG. 1 with portions of the casing and pad device broken away to show portions of the interior structure of the pad device;

FIG. 3 is a rear view of a pad device prior to mounting thereof on a supporting plate;

FIG. 4 is a rear view of a supporting plate having a pad device mounted in a predetermined position on the front thereof; and

FIG. 5 is a perspective exploded view of the supporting plate and frame plate.

Referring now to the drawing for a more detailed description of the present invention, and more particularly to FIG. 1, wherein one preferred embodiment of the invention is shown, a pad device is generally indicated by the reference numeral **10**. Pad device **10** is illustrated as disposed on the outer surface of an electric dry shaver casing and which casing is generally indicated by the reference numeral **11**. Casing **11** is of a usual type construction and houses a motor (not shown) for operating a cutter head **12** in a well known manner. Casing **11** includes a premolded casing section **13** formed of a hard smooth plastic material, as for example nylon, and a removable plastic hair pocket section **14** is fitted over cutter head **12**. A pad device **10** is mounted on each face of casing section **13** whereby a user holds the casing in his cupped hand during operation of the shaver with his thumb grasping a pad device **10** on one face of section **13** with the pad device **10** on the opposite face grasped by other fingers of the user's hand. It is to be understood that the novel pad device assembly, as will hereinafter be described, is not limited to the particular device or casing as shown and as will be seen is readily adapted for use with a wide variety of hand-held appliances.

The opposite faces of casing section **13** are identical. As shown in FIGS. 1 and 2 the front face (FIG. 1) is provided with a pair of spaced premolded horizontal ribs **17**. Ribs **17** merge at their opposite ends with the ends of a pair of spaced vertical premolded ribs **18** (FIG. 1) to form a rectangular-shaped framing portion **20**. Pad device **10** is disposed in framing portion **20** and includes a rectangular frame plate backing member **22** (FIGS. 3 and 6) preferably formed of sheet metal material and stamped therefrom to a predetermined size. An inner cushion member consisting of a relatively thick layer of resilient material **24** (partially shown in FIGS. 1 and 2), such as a vinyl foam, is mounted on the front surface **25** (FIG. 1) of frame plate **22**. A cover or outer facing member **26** comprised of a soft material, such as flexible vinyl plastic, is disposed over and covers inner cushion member **24**. The peripheral side marginal portions **27** (FIGS. 2 and 3) of cover member **26** are folded over the edges of frame plate **22** and are secured to the rear surface **28** (FIG. 3) of frame plate **22** by a suitable adhesive. Integral tab projections **30** extend outwardly from and adjacent each corner of frame plate **22** for purposes to be hereinafter described. In addition, a pair of spaced aligning bosses **31** and **32** are formed in frame plate **22** and project outwardly from rear surface **28**. Bosses **31** and **32** are each arranged equal distances designated R^1 in FIG. 3 from the center C^1 of frame

plate 22 and each is situated along an imaginary line A—A (FIG. 3) which bisects frame plate 22.

Means are provided for mounting pad device 10 on casing 11 and which means include a flat rectangular-shaped supporting plate 34. As seen in FIGS. 1 and 5 supporting plate 34 has a larger surface area than frame plate 22 and which supporting plate surface area conforms to the surface area of the casing bounded by casing ribs 17 and 18 with framing portion 20. Supporting plate 34 is provided with a plurality of spaced rows 36 of apertures (FIGS. 4 and 5). Two of these apertures as indicated by reference numerals 38 and 39 are adapted to receive bosses 31 and 32 of frame plate 22 with the remaining apertures in rows 36 adapted to release air when pad device 10 is compressed. Bosses 31 and 32 are in alignment with spaced apertures 38 and 39 and to this end spaced apertures 38 and 39 are formed equal distances designated R^2 in FIG. 4 from the center C^2 of supporting plate 34. Distances R^2 are equal to distances R^1 (FIG. 3) and apertures 38 and 39 are situated on an imaginary line designated B—B in FIG. 4 which bisects supporting plate 34. As a result of this arrangement when center C^1 of frame plate 22 is registered with center C^2 of supporting plate 34 bosses 31 and 32 are readily brought into alignment with apertures 38 and 39.

Additional apertures 41 are provided in supporting plate 34 adjacent each corner thereof. Tabs 30 of frame plate 22 are inserted in apertures 41 and are folded over against the rear surface 42 of supporting plate 34 (FIG. 4) whereby pad device 10 is securely attached to supporting plate 34 with the peripheral edges of pad 10 uniformly spaced from the peripheral edges of supporting plate 34 as indicated at 44 in FIG. 1. Rear surface 42 of supporting plate 34 is secured to the face of casing 11 within framing portion 20 by any suitable means such as by an adhesive (not shown) applied thereto.

In assembling pad device 10, inner cushion member 24 is placed against frame plate 22 and cover member 26 is then placed over cushion 24. The peripheral marginal portions 27 of cover 26 are folded over the edges of frame plate 22 and secured by an adhesive to the rear surface 28 of frame plate 22. Bosses 31 and 32 on frame plate 22 are brought into alignment with apertures 38 and 39 in supporting plate 34 and inserted therein to align pad device 10 in a predetermined position on supporting plate 34. Tabs 30 of frame plate 22 are then inserted into apertures 41 and folded over to securely attach pad device 10 to plate 34. The pad assembly is then mounted in framing portion 20 and attached to casing 11 by an adhesive applied to rear surface 42 of supporting plate 34.

It will be apparent from the foregoing description that the described pad assembly has many advantages in use. Frame plate 22 and supporting plate 34 are readily and economically stamped to a predetermined size from sheet material to conform to exact manufacturing tolerances. Any variations in dimensions in the flexible cover member 26 after cutting is compensated for at the rear of frame plate 22 whereat the peripheral marginal portions 27 are manually adjusted if necessary to provide a correct fit of cushion 24 and cover 26 on plate 22 prior to securing marginal portions 27 to frame plate 22. The novel aligning means on frame plate 22 and supporting plate 34 permit the pad member 10 to be mounted in a predetermined position with respect to each other and casing 11 with a minimum of effort providing for rapid assembly procedures which result in a savings of cost not only in labor but in material. The novel aligning means and structure disclosed further allow for the provision of a uniform exposed marginal portion 44 or border on supporting plate with a high degree of accuracy during manufacture which adds to the attractiveness of the pad device when the latter is mounted on an appliance.

Although one embodiment of the present invention has been illustrated and described in detail it is to be

expressly understood that the invention is not limited thereto. Various changes can be made in the design and arrangements of parts without departing from the spirit and scope of the invention as the same will now be understood by those skilled in the art.

What is claimed is:

1. A pad gripping device for a hand-held appliance comprising:
   (a) a frame plate,
   (b) a pad cushion member secured to said frame plate,
   (c) said pad cushion member including an inner resilient member disposed against one face of said frame plate,
   (d) a supporting plate adapted for attachment to a surface of a said hand-held appliance and having a greater surface area than said frame plate,
   (e) aligning means formed on said frame plate and said supporting plate to align said frame plate in predetermined position within the surface area of said supporting plate wherein the peripheral edges of said pad member are spaced from the peripheral edges of the supporting plate.
   (f) said aligning means including boss means on one of said plates and aperture means provided on the other plate adapted to receive said boss means, and
   (g) means securing said frame plate to said supporting plate in said predetermined position.

2. A pad gripping device for a hand-held device comprising:
   (a) a rectangular frame plate,
   (b) a pad cushion member secured to said frame plate,
   (c) said pad cushion member secured to said frame plate and including an inner resilient member disposed against one face of said frame plate and an outer flexible cover disposed over said inner resilient member,
   (d) a rectangular supporting plate adapted for attachment to the outer surface of a said hand-held appliance and having a greater surface area than said frame plate,
   (e) a pair of spaced bosses on said other face of said frame plate,
   (f) a pair of spaced apertures in said supporting plate adapted to receive said bosses to align said frame plate and pad cushion member in a predetermined position on said supporting plate within the surface area of said supporting plate, and
   (g) means securing said frame plate to said supporting plate.

3. A pad gripping device for a hand-held device comprising:
   (a) a supporting plate adapted for attachment to the outer surface of a hand-held device,
   (b) a frame plate arranged on said supporting plate within the perimeter of said supporting plate,
   (c) a resilient pad cushion member secured to said frame plate,
   (d) a pair of bosses on said frame plate formed equidistant from a center point on said frame plate and lying along an imaginary line bisecting said frame plate,
   (e) a pair of spaced apertures formed in said supporting plate and spaced equidistant from a center point on said supporting plate and lying along an imaginary line bisecting said supporting plate,
   (f) said bosses on said frame plate arranged in said spaced apertures on said supporting plate to align said frame plate and pad member in a predetermined position on said supporting plate wherein the peripheral edges of said pad member are uniformly spaced from the peripheral edges of said supporting plate, and
   (g) means on said frame plate to secure said frame plate in said predetermined position on said supporting plate.

4. The pad gripping device of claim 3 wherein said means for securing said frame plate to said supporting plate include integral tab members formed on said frame plate and apertures in said supporting plate adapted to receive said tab members.

5. In a hand-held appliance having a casing provided with a recessed framing portion on one face thereof and a pad gripping assembly disposed in said framing portion, said pad gripping assembly comprising:

(a) a supporting plate secured to said casing within said framing portion and having a surface area conforming in configuration to a surface area of said casing bounded by said framing portion,

(b) a frame plate secured to said supporting plate within the perimeter of said supporting plate and having peripheral edges spaced from the edges of said supporting plate,

(c) a pad cushion member mounted on said frame plate,

(d) said pad cushion member including a resilient inner member disposed on one face of said frame plate and a flexible cover member arranged over said inner resilient member,

(e) said cover member having peripheral marginal portions secured to the other face of said frame plate,

(f) first aligning means on said other face of said frame plate, and

(g) second aligning means on said supporting plate cooperating with first aligning means to mount said pad member in predetermined position on said supporting plate wherein the peripheral edges of said frame plate are uniformly spaced from the peripheral edges of said supporting plate.

6. In an electric dry shaver having a casing provided with a recessed framing portion on one face thereof and a pad gripping assembly disposed in said framing portion, said pad gripping assembly comprising,

(a) a supporting plate secured to said casing within said framing portion and having a surface area conforming in configuration to a surface area of said casing bounded by said framing portion,

(b) a frame plate secured to said supporting plate and having peripheral edges defining a surface area of lesser dimension than the surface area of said supporting plate,

(c) a pad cushion member mounted on said frame plate,

(d) said pad cushion member including a resilient inner member disposed on one face of said frame plate and a flexible cover member arranged over said inner resilient member,

(e) said cover member having peripheral marginal portions secured to the other face of said frame plate,

(f) a pair of bosses formed on said other face of said frame plate,

(g) said supporting plate having a pair of apertures adapted to receive said pair of bosses to mount said pad member in a predetermined position on said supporting plate wherein the peripheral edges of said frame plate are uniformly spaced from the peripheral edges of said supporting plate.

7. In the method of making and assembling a pad gripping device in a recessed surface of a hand-held device, the pad gripping device consisting of a frame plate and a cushion member of like dimensions and a flexible cover member and a perforated supporting plate, said flexible cover member and perforated supporting plate having dimensions greater than that of the frame plate and the cushion member, the steps comprising:

(a) securing the cushion member to one face of the frame plate having locating means thereon,

(b) placing the flexible cover member over the exposed surface of the cushion member,

(c) folding the marginal portions of the cover member over the edges of the frame plate,

(d) securing the folded marginal portions of the cover member to the other face of the frame plate,

(e) positioning the assembled frame plate, cushion member, and flexible cover member, on the supporting plate so as to cause the locating means on the frame plate to cooperate with the perforations in the supporting plate in a manner to provide a uniformly exposed marginal border of the supporting plate,

(f) fastening the assembled frame plate, cushion member, and flexible cover member, to the supporting plate, and

(g) securing the assembled pad gripping device within the recessed surface of the hand-held device.

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