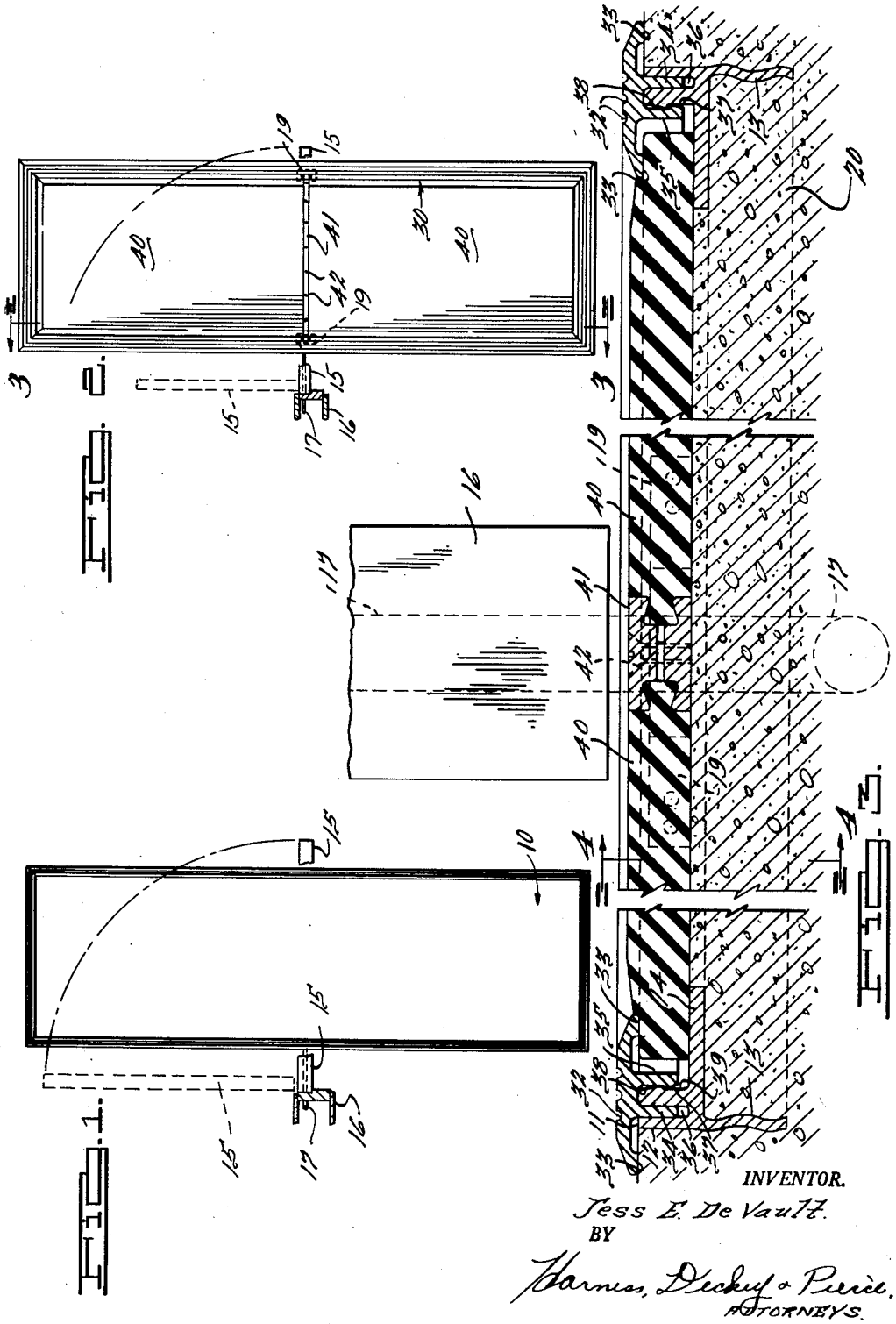
Oct. 1, 1957 J. E. DE VAULT 2,807,826

SNAP-TYPE MOLDING AND FRAME FOR CARPET

Filed July 12, 1954 2 Sheets-Sheet 1



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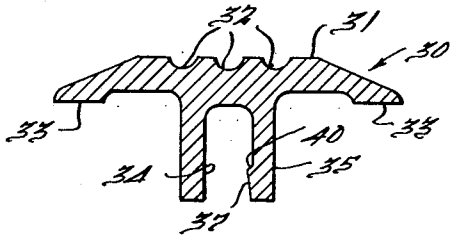


FIG. 5.

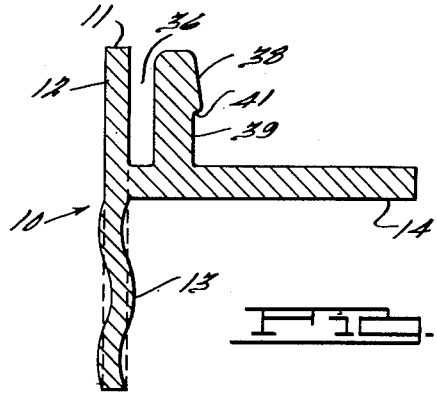


FIG. 6.

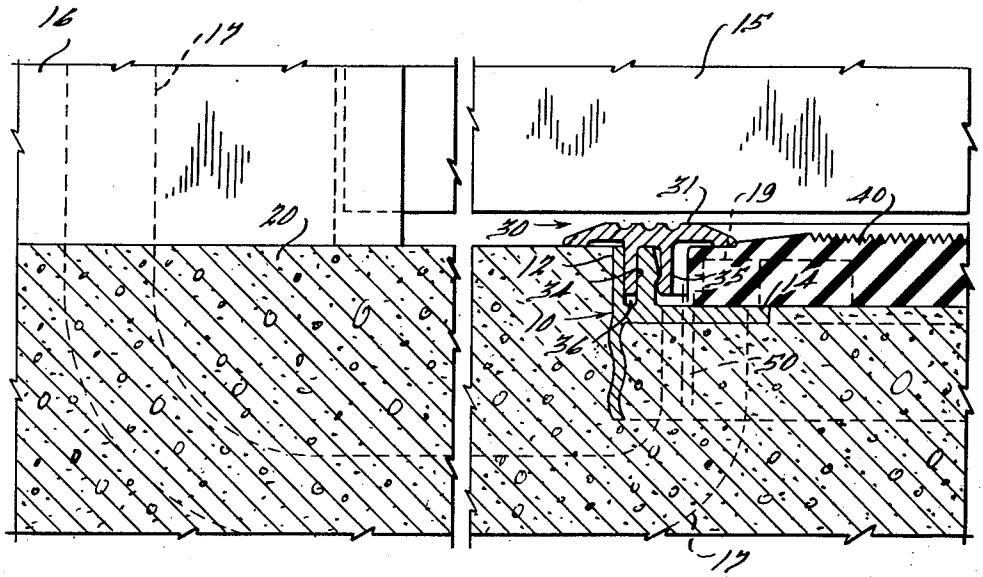


FIG. 4.

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SNAP-TYPE MOLDING AND FRAME FOR CARPET

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4 Claims. (Cl. 16—7)

The present invention relates generally to power-operated door opening and closing devices such as are employed in public buildings. More particularly, the present invention relates to a molding and frame for installation of the electric or pneumatic carpet-type of triggering devices for power-operated door opening and closing devices.

At the present time, there are several general types of door opening devices in use. One is the type operated by a photo-electric cell. Another type employs a carpet or mat having pneumatic cells disposed therein which, when stepped on, operate a switch or valve connected to a power-operated door opening device. Still another type employs a mat or carpet, usually of rubber or plastic, containing a plurality of electrical contacts which are brought together by the weight of a person stepping thereon, thereby completing an electric circuit to trigger a power-operated door opening device. The present invention is primarily concerned with the latter type although the novel molding of this invention also has application to the pneumatic type of carpet.

In the installation of these electric or pneumatic carpets, the latter must be firmly held in position and protected against injury lest their electrical or pneumatic contacts be ruptured or otherwise injured. Yet, they must be easily demountable for inspection, adjustment, replacement and repair. For best results, these carpets are mounted flush with the surrounding floor and with all electrical and pneumatic connections, etc., buried or concealed. In order to mount these carpets in this manner, it has been necessary heretofore to dig or cut a trench in concrete floors or other type of floor, place a form for pouring a level surface therein, and mount the carpets with screw-held mountings, trim pieces and the like. It is very difficult to prepare a level supporting surface in this manner and it is a time-consuming operation to install the multitudinous screws, etc. required for a secure installation. The screws, bolts or other fastening devices, moreover, work loose and lead to damage to the carpet itself.

It is a principal object of this invention, therefore, to provide a snap-type molding which does not require screws, bolts, etc., which firmly and securely anchors the carpet and which also serves as a form for the laying of a new concrete or composition surface at the correct elevation to perfectly support the carpet installed thereon.

Another object is to provide a molding which anchors itself to concrete and composition-type floors.

Still another object is to provide a carpet molding which employs a simple, rugged, snap-type fastening device which does not work loose in use.

Yet another object is to provide a simple two-piece molding embodying a self-anchoring device, a rugged snap-on outer molding piece, and an integral leveling member for determining the interior level of concrete and other pourable composition flooring materials.

Another object is to provide a molding incorporating electrical, pneumatic or other connecting devices for simplifying the connection of electrical and pneumatic carpets.

Still other objects and advantages of the present invention will be apparent or will become apparent in the detailed description of the invention to follow when taken in conjunction with the accompanying drawings, in which:

Figure 1 is a plan view of a door installation, with portions broken away, showing the anchor half of the molding of this invention in place as a frame and a smooth interior surface therewithin ready to receive the carpet;

Fig. 2 is a plan view of the door installation of Fig. 1, showing a two-piece electrical carpet in place and the snap-on upper molding piece in position;

Fig. 3 is an enlarged longitudinal sectional view of the single assembly of Fig. 2, with portions broken out, the section being taken along the line 3—3 of Fig. 2;

Fig. 4 is an enlarged transverse sectional view of the assembly employing the moldings of this invention, with portions broken out, the section being taken along the line 4—4 of Fig. 3;

Fig. 5 is an enlarged transverse sectional view through the upper snap-on portion of the molding of this invention; and

Fig. 6 is an enlarged transverse sectional view through the lower or anchor portion of the molding of this invention.

In accordance with the present invention, the composite molding of this invention comprises two portions, one being the anchor or base half shown in Fig. 6 and the other being the snap-on top hold-down molding portion shown in Fig. 5. The anchor half of the molding, indicated generally by the numeral **10** in Fig. 1, is installed or supported in a trench or slot dug into a surrounding floor **20**. In this position, the straight top edge **11** of the straight-sided upstanding leg **12** of the anchor molding **10** is brought flush with the surrounding floor level. Concrete or other plastic flooring composition is poured on both sides of the anchor molding **10** so as to flow about the lower wavy or crimped self-anchoring portion **13**. On the inside of the frame, thus defined, the concrete or other material is leveled off flush with the top edge of horizontal leveler leg **14**. When the concrete is set, the crimped lower portion **13** of the leg **12** firmly anchors the base molding and the leveler leg **14** provides lateral support. When completed, this part of the installation will appear as in Fig. 1, the molding being installed beneath a door **15**. The door jamb structure **16** serves as a channel for an electric lead wire or cable (or pneumatic connection) which passes through a short section of conduit **17** set in the concrete floor and from thence under anchor molding **10** to terminate in an electrical lead wire receptacle **19** (see Fig. 2) located near the center of the carpet. For rigidity of structure, the receptacle **19** may be attached to the molding by suitable screw-type connections, as will be more fully described below.

In Fig. 2, the snap-on upper half **30** of the molding is shown snapped into position on the frame of Fig. 4 provided by the anchor molding **10**. The snap-on molding **30**, shown in greater detail in Fig. 5, comprises a top piece or cap **31** having decorative, non-skid grooves **32**, **32** in its top surface and on its underside, two downwardly-pointing, horizontal planar support bosses **33**, **33**, one of the latter serving as a bearing on the floor surface outside the frame and the other for pressing downwardly on the held-down electrical carpet **40**. On the underside of the top piece **31** are two downwardly-depending legs **34**, **35** located at an intermediate position thereon. The left leg **34** is straight sided and adapted to fit down into a corresponding slot **36** located in the anchor molding **10**. The leg **35**, however, has an enlarged or thickened portion on its lower end on what is the side facing away from the anchor leg **12—13** of the anchor molding **10**, the thickened, lower portion having a tapered face **37** designed to snap down over a complementary tapered face **38** on the thickened upper portion of the leg **39** of the anchor molding **10**. Thus, the snap-engaging leg **35** of the snap-on molding **30** usually is somewhat thinner and more flexible

than its matching counterpart **39** so as to flex slightly to allow the curved corner **40** on leg **35** to engage itself under the shoulder **41** formed beneath the tapered face **38** of leg **39**. Both the anchor and snap-on sections also may have more than one guiding member and more than one snap-engaging member, if desired. This situation may be reversed, if desired; that is, the snap-engaging leg **39** of anchor molding **10** may be more flexible, if desired. Disengagement of the snap-on molding piece **30** is accomplished simply by prying upwardly with a tool inserted under the outer supporting boss **33**. The design and proportioning of the snap-engaged members, it should be understood, may be varied to take into account the flexibility, strength and other physical properties of the material of construction of the two pieces. These are made, preferably though not necessarily, of aluminum or aluminum alloy, stainless steel, or other bright finished metal or alloy.

In Figs. 2 and 3, the two halves of the electric carpet **40** are shown in place and the snap-on top molding piece **30** is shown engaged in position on the frame formed by the lower anchor molding **10**. At the middle, the two halves of the carpet **40** are shown connected by a carpet dovetail clamp **41**, the molded edges of the carpets being secured by screws or bolts **42**, **42** connecting the two halves of the clamp **41**. The carpet dovetail clamp **41** can be bolted between the anchor frame members, if desired. Near each end of the dovetail clamp **41**, there are located the electrical lead wire receptacles **19**, **19**.

In Fig. 4, there is shown in greater detail a method of bringing the electrical lead wire conduit **17** through the concrete floor either for a single door installation or when interconnecting a number of parallel carpets in a multiple door installation. As shown, the lead wire conduit **17** is brought down from the door jamb structure **16**, or from another carpet installation, down through the concrete and up through or connected to a hole (not shown) drilled under the anchor half **10** of the molding and the wire **50** brought thence through the hole in horizontal leg **14** into an electrical receptacle **19** built into the carpet. The latter may be attached to the holes in the leg **14** of the anchor molding, if desired. In this way, all electrical connections may be protected and held in alignment by means of the molding itself.

The advantages of the molding of this invention thus are (1) firm anchoring of the carpet; (2) ease of installation, the molding serving as its own form and its own anchor, and the ease of attaching the upper snap-on top molding piece; (3) the ease of incorporating electrical or pneumatic connections; (4) the ease of removal of the molding for replacement, adjustment or repair of the carpet or its electrical connections; and (5) the simplicity of the molding and its freedom from screw or bolt heads making for artistic clean surfaces which are easy to keep clean.

What is claimed is:

1. A molding for electrical and pneumatic carpets comprising an anchor portion and a snap-on portion, said anchor portion having a substantially vertical guiding, anchoring and leveling member having at one end a flush edge adapted to be set substantially level with a surrounding floor and at the other a crimped section for anchoring it in a surrounding structure, an inwardly-projecting horizontal member defining a carpet-retaining depression, and at least one upstanding member attached to said horizontal member for snap-engaging said snap-on portion, said snap-on portion having a head portion and at least a pair of downwardly-depending members for guiding and engaging with the like members of said anchor portion, at least one of said depending and one of said upstanding members having complementary tapered faces and shoulders designed for firm engagement one with the other.

2. A hold-down molding for installation in a surrounding structure, comprising an anchor section and a snap-on section, said anchor section comprising a vertical leg designed for vertical installation flush with said surrounding structure, the lower portion of said leg being crimped to permanently engage itself in said structure, a horizontal leg intersecting said vertical leg at a depth defining a suitable depression for a held-down object, and at least one upstanding snap-engaging leg joined to said horizontal leg and spaced from said vertical leg to form a positioning slot for a complementary member on said snap-on section, said snap-engaging leg having a thickened upper end cut on a taper and shaped to define a snap-engaging shoulder, and said snap-on section having a top member adapted to fit down on a surrounding structure on one edge and to engage the held-down object on the other and at least a pair of downwardly-depending legs located intermediate the edges of said top, at least one of said legs being straight-sided and positioned to fit into said slot in said anchor section and at least one of the other said legs having a thickened lower end cut on a taper to form a shoulder complementary to that on said like upstanding member on said anchor section, and at least one of said thickened snap-engaging legs being generally thinner and more flexible than its counterpart on the other said section.

3. A hold-dow molding for electrical carpets comprising an anchor section adapted for flush installation in a surrounding floor and a snap-on section adapted to engage with said anchor section and to rest flat on said surrounding floor, said anchor section comprising a vertical outside leg adapted to be incorporated in a composition floor with its top edge flush therewith and having its lower end crimped to anchor itself therein, a horizontal leg intersecting said vertical leg at an intermediate point therein and at a depth corresponding to said held-down carpet, and a second upstanding leg integral with said horizontal leg and spaced from said vertical leg so as to define a guide slot therebetween, the upper end of said last-named upstanding leg being thickened on its side facing away from said vertical leg so as to form a shoulder with the rest of said leg and having the said thickened portion cut on a taper on said side facing away from said vertical leg, and said snap-on section having a cap adapted to fit down on said floor on one side and to firmly engage said carpet on the other side, when engaged with said anchor section, and a pair of downwardly-depending members attached to the underside of said cap, one of the latter being shaped and proportioned to fit into said guide slot of said anchor section, and the other of said members having a complementary tapered surface and shoulder for engagement with the like surface and shoulder on said anchor section, the last-named member being more flexible than its counterpart on said anchor section.

4. A molding for carpets comprising a frame member adapted to be anchored in a supporting surface to define an enclosing frame surrounding a carpet-receiving depression in said surface and a carpet-retaining member adapted to releasably engage said frame member around the enclosing frame and hold the carpet in said depression, said frame member comprising an element having a flush edge adapted to be set substantially flush with said surface, an inwardly-extending leveling element defining the depth of said depression, an engaging means to engage and retain said carpet-securing member, and an anchor portion to anchor said frame member in composition material poured around the frame member to the level of said leveling element, and said carpet-retaining member having a head portion and downwardly-extending engaging means adapted to releasably engage the engaging means of said frame member.

References Cited in the file of this patent

UNITED STATES PATENTS

66,588	Hicks	July 9, 1867
1,185,488	Ellery	May 30, 1916
1,576,527	McBride	Mar. 16, 1926
1,592,923	Butterworth	July 20, 1926
2,449,904	Lorraine	Sept. 21, 1948