

SPECIFICATION

A device adapted to be fixed to a wall blindly

The invention relates to a device adapted to be fixed to a wall blindly.

5 A prior art device adapted to be fixed to a wall blindly has:

- a threaded base which is pushed through a hole formed through said wall, said base including:

- a shank having a free end,
10 - flexible teeth which adopt a rest position in which they project radially from the shank when no force is applied to them and can retract elastically from this rest position, said teeth having a radial bearing surface facing away from said free end, and

15 - a head adapted to be screwed onto the base and having an abutment surface which faces toward the bearing surface of said teeth when the head is screwed onto the base.

A device of the above kind can be used, among other
20 things, to fix an attachment system to a wall, to fix indicators or control buttons to display or control panels, or to pass a cable in a sealed manner through a wall, in which case the device is usually called a "cable gland".

25 The device is fixed to the wall by pushing the base into the hole and then screwing the head onto the base until the wall is clamped between the bearing surface of the teeth and the abutment surface of the head.

30 Most prior art devices of this type have a number of drawbacks.

When screwing the head onto the base, the head often tends to entrain the base with it as it rotates, because of friction.

35 It is then necessary to hold the base with one hand, while screwing on the head with the other hand,

i.e. both hands must be used at once.

In some cases it is difficult or even impossible to use both hands, for example if access to the wall in which the hole is made is difficult.

5 The document DE-A-41 28 632 provides projections or imprints on the circumference of the hole which respectively interengage with imprints or projections in the base, in the area of the teeth, to prevent the device rotating in the wall.

10 Clearly the hole and the base have complementary crenellated sections and this necessitates, at least for making the hole in the wall, the use of a tool which is a special shape and whose diameter has to be chosen as a function of the diameter of the base.

15 The invention aims, among other things, to alleviate the drawbacks previously cited by proposing a device that can be fixed to a wall blindly and which is both practical and simple to use.

20 To this end, and in a first aspect, the invention proposes a device adapted to be fixed to a wall blindly and which includes:

- a threaded base which is pushed through a hole formed through said wall and includes:

25 - a shank having opposite first and second free ends,

- flexible teeth which adopt a rest position in which they project radially from the shank when no force is applied to them and can retract elastically from this rest position, said teeth having a radial bearing surface facing away from said free end, and

30 - a head adapted to be screwed onto the base and having an abutment surface which faces toward the bearing surface of said teeth when the head is screwed onto the base;

35 which device further includes an elastically compressible

member adapted to be compressed by a radial force and covering at least part of said shank in the vicinity of the teeth at the end opposite the free end of the shank.

5 When the base has been pushed into the hole, the elastic member is compressed between the shank and the edge of the hole and brakes rotation of the base when screwing on the head, and the device can therefore be fixed with one hand.

10 In one embodiment, said compressible member takes the form of an annular bead made of an elastomer material, surrounding the shank, fixed permanently to the shank and molded around the shank.

The compressible member can cover at least part of the bearing surface of said teeth.

15 The device can further include a second compressible member extending radially around said shank and including:

20 - a first bearing surface which faces the abutment surface of the head when the head is screwed onto the base; and

- a second bearing surface which faces the bearing surface of the teeth.

25 In one embodiment the first and second compressible members form a one-piece assembly, the second compressible member takes the form of a flange in one piece with the first compressible member and situated at a distance from the teeth so that a free space is formed between the second bearing surface of the flange and the bearing surfaces of the teeth, and the one-piece assembly
30 has a section in the shape of an angle-iron.

In another embodiment the second compressible member takes the form of a washer adapted to be threaded over the shank.

35 The base preferably includes a shoulder situated at a distance from the teeth at the end opposite the first

free end and forming a radial abutment surface that faces the bearing surfaces of the teeth so that a space is formed between the teeth and said shoulder, and the first compressible member is situated in the space formed between said teeth and said shoulder.

Furthermore, the base can have a threaded portion extending from said shoulder toward the second free end, opposite the first free end.

According to other features:

- the base is hollow and has a substantially cylindrical hole through it extending from one end to the other;

- the base further includes a frustoconical elastic flexible membrane having:

- a first end fixed to the second end of the base and defining a first mouth; and

- a second free end defining a second mouth facing toward the first end of the shank, said membrane extending, between its two mouths, across at least a portion of said hole.

The membrane can be molded into the base and is made of an elastomer material, for example the same material as said compressible member.

In one embodiment the head is a cylindrical component including:

- a bore which is at least partly threaded;
- a first end defining a first substantially circular opening and forming said abutment surface; and
- a second end opposite the first end and defining a second substantially circular opening.

For example, the head further includes an elastic flexible membrane fixed to the second end of the head and forming a readily torn film blocking the second opening.

The film is preferably circular and has in the vicinity of its center a weaker area which can be

depressed to cause the film to start to tear.

According to other features:

- the film is made of an elastomer material;
- the film is made of the same material as said
5 compressible member;
- the film is molded onto the head.

In one embodiment the device further includes an insert which is inserted and fixed into the hole in the head, said insert and the head being coaxial and said
10 insert including:

- an annular portion; and
 - a plurality of elastic blades each including:
 - a first portion projecting axially from said
annular portion toward the second opening; and
 - 15 - a second portion curved toward the first
opening and toward the axis of the insert and extended by
a free end forming a point;
- the points together defining a free space around the axis
of the insert.

20 For example, the head includes:

- an inside radial projection at a distance from
its first end; and
 - an abutment at a distance from said projection;
- and said insert is clipped into the head and trapped
25 between said projection and said abutment.

According to other features:

- the head has a threaded portion extending between
the first end and said projection, and includes a
plurality of threaded sectors separated by sectors that
30 are not threaded; the threaded portion can also have a
double thread and includes two interleaved threads;
- the head includes a series of exterior beads
extending in the axial direction and, for example, in one
piece with the abovementioned film.

35 In one embodiment the device includes means for

clipping the head to the base. The clipping means include, for example, on the one hand, teeth belonging to the head and, on the other hand, claws belonging to the base, and said claws are adapted to cooperate with said teeth.

In a second aspect the invention proposes a cable entry device for passing a cable through a wall by means of a hole formed through said wall, which device takes the form of a device as described hereinabove, the base and the head being hollow to enable the cable to pass through them.

Other objects and advantages of the invention will become apparent in the course of the following description of preferred embodiments of the invention, which description is given by way of non-limiting illustrative example and with reference to the accompanying drawings, in which:

- figure 1 is a sectioned elevation view of a cable entry device according to the invention, which can be fixed to a wall blindly, and which includes two elastically compressible members forming a one-piece assembly with a section in the shape of an angle-iron; in this figure, the device is shown in an intermediate position in which the base has been pushed into the wall but the device has not been fixed to the wall, because the head has not been screwed fully onto the base;

- figure 2 is an elevation view of the base of the device shown in figure 1;

- figure 3 is a partly sectioned perspective view of the base shown in figure 2;

- figure 4 is a view similar to figure 1, in which the device has been fixed to the wall by screwing the head all the way onto the base;

- figure 5 is a view similar to that of figure 4, but in which the wall is thicker than the wall shown in

figure 4;

- figure 6 is a view similar to those of figures 1, 4 and 5, showing a different embodiment in which the head includes complementary holding members in the form of external beads;

- figure 7 is an elevation view of the head of the device shown in figure 6;

- figure 8 is a top view of the head shown in figure 7;

- figure 9 is a view similar to that of figures 4 to 6, showing a different embodiment in which the device includes two separate elastically compressible members;

- figure 10 is a half-sectioned view in elevation of the base of a different embodiment of a device according to the invention; and

- figure 11 is a sectioned view in elevation of a further embodiment of a device in accordance with the invention.

Figure 1, 4 and 5 show a device 1 adapted to be fixed to a wall 2 blindly by pushing it into a hole 3 formed through the wall 2.

Here the device 1 is a cable entry device enabling a cable 4 to be passed through the hole 3 in the wall 2 in a sealed manner, in which case the device is known as a cable gland.

The device 1 includes a hollow threaded base 5 adapted to be pushed into the wall 2 to clip it thereto and a hollow threaded head 6 adapted to be screwed onto the base 5 to fix the device 1 to the wall 2 by gripping the wall 2 between the base 5 and the head 6, as shown in figures 4 and 5.

The base 5 and the head 6 are relatively rigid components which in this example are made from a plastics material such as polypropylene or PVC.

The wall 2 has a substantially plane first face 7

and a second face 8 opposite and substantially parallel to the first face 7.

5 The hole 3, which has a circular section and an axis A, has a cylindrical edge surface 9 connecting the faces 7, 8.

The thickness of the wall 2, i.e. the distance between the first face 7 and the second face 8, and thus the longitudinal dimension of the edge surface 9 of the hole 3, is denoted e.

10 The base 5 is circular and has an axis A' which, when the base 5 is pushed into the hole 3, is substantially coincident with the axis A of the hole.

15 The base 5 includes a substantially cylindrical shank 10 which has a free end 11 forming a first free end of the base 5 and which is on the side of the second face 8 of the wall 2 when the base 5 is pushed into the hole 3.

20 The base 5 further includes flexible teeth 12 which, when no force is applied to them, adopt a rest position (see figure 1) in which they project radially from the shank 10, and which are able to retract elastically from this rest position to enable the base 5 to be clipped into the hole 3.

25 As can be seen in figures 1 and 2, the base 5 has two teeth 12 which are symmetrical with respect to each other about the axis A'; each tooth is in one piece with the shank 10 and is delimited by a U-shaped notch 13 in the shank 10.

30 The teeth 12 have an inclined external surface 14 facing toward the free end 11 and a radial bearing surface 15 facing away from the free end 11.

35 The end of the base 5 opposite its free end 11 is extended, at a particular axial distance from the teeth, by a threaded end part 16 having an outside diameter greater than that of the shank 10, and the base 5

therefore has a substantially T-shaped section in elevation (see figure 2).

5 The threaded end portion 16 extends between, on the one hand, a shoulder where it joins onto the shank 10 and forming an annular radial abutment surface 17 which faces the bearing surfaces 15 of the teeth 12, and an end 18 forming a second free end of the base 5, at the end opposite the first free end 11.

10 The shank 10 also has a cylindrical part 19 forming a central portion of the base 5 in the space between the bearing surfaces 15 of the teeth 12 and the shoulder 17.

15 The external dimensions of the base 5, in particular its outside diameter at its first free end 11, the bearing surface 15 of the teeth 12, its central portion 19 and its end portion 16, as well as the longitudinal dimension of the central portion 19, are naturally chosen so that the base 5 can be pushed into the hole 3 and easily be clipped into the hole.

20 Accordingly, when the base 5 is pushed into the hole 3, the outside surfaces 14 of the teeth 12 come into contact with the edge surface 9 of the hole and are forced to retract in the radial direction.

25 Because of their inherent elasticity, the teeth 12 return to their rest position when they have passed through the wall 2, their bearing surface 15 then facing the second face 8 of the wall 2.

30 The wall 2 is therefore sandwiched between the teeth 12 and the end portion 16, with the edge surface 9 of the hole facing the central portion 19, as shown in figure 1.

To this end the central portion 19 of course has a longitudinal dimension greater than the thickness e of the wall 2.

35 Figure 1 shows the device 1 in an intermediate position in which, although it has been clipped into the

hole 3, the base 5 is relatively free to move relative to the wall 2 in longitudinal translation.

5 The device 1 is fixed to the wall 2 by screwing the head 6 all the way onto the base 5 after pushing the free end 11 of the base 5 into the hole 3 and clipping it there.

10 The head 6 has a first end 20 forming an annular radial abutment surface which faces toward the bearing surfaces 15 of the teeth 12 when the head 6 is screwed onto the base 5.

15 Screwing the head 6 all the way onto the base 5 from the intermediate position moves the abutment surface 20 and the bearing surfaces 15 toward each other as far as a fixing position, shown in figures 4 and 5, in which the wall 2 is clamped between the abutment surface 20 and the bearing surface 15.

20 The base 5 must be prevented from rotating relative to the wall 2 to prevent the head 6 entraining the base 5 when it is screwed on, causing it to rotate about its axis A'.

To this end, the base 5 includes a belt 21 which surrounds the shank 10 in the vicinity of the teeth 12 at the end opposite the first free end 11 and covering the central portion 19.

25 The belt 21 is an elastically compressible member adapted to be compressed by an inwardly directed radial force and to expand in the absence of any such force by virtue of its inherent elasticity.

30 The belt 21 is made from an elastomer material and is permanently fixed to the shank 10, being molded around the latter to form an annular bead around it having a substantially cylindrical outside surface.

35 Here the material from which the belt 21 is made is chosen from thermoplastics elastomers having the following characteristics:

- Shore A hardness from 35 to 45, as measured by the method described in ASTM D 2240, and

5 - permanent deformation under pressure from 15% to 16%, as measured by method B described in ASTM D 395, at 23°C.

10 The geometry of the belt 21, in particular its radial dimension, is chosen so that, after the base 5 has been pushed through the hole 3, the belt 21 is interengaged with the edge surface 9 of the hole 3 and is compressed between said edge surface 9 and the central portion 19 of the base 5.

15 This produces a friction force between the belt 21 and the edge surface 9 of the hole 3 that prevents free rotation of the base 5 in the wall 2 so that the head 6 can be screwed on without it being necessary to hold the base 5.

 By filling the space between the central portion 19 and the edge surface 9 of the hole 3, the belt 21 also seals the junction between the base 5 and the wall 2.

20 The device 1 further includes a second compressible member 22 in the form of an annular skirt or flange that extends in the radial direction around the shank 10.

25 The flange 22 is in one piece with the belt 21 and with it forms a one-piece assembly with a section in the shape of an angle-iron, as can be seen in figures 1 to 5.

30 The flange 22 is near the shoulder 17 and at a distance from the teeth 12, and has a first radial bearing surface 23 facing toward the shoulder 17; when the head 6 is fixed to the base 5, this surface faces the abutment surface 20; it also has a second radial bearing surface 24 opposite the first surface 23 and facing the bearing surface 11 of the teeth 12.

35 A free space is thereby formed between the second bearing surface 24 and the bearing surfaces 15 of the teeth 12; when no axial force is applied to the flange

22, this space has an axial dimension d chosen to be greater than the thickness e of the wall 2.

5 The device 1 is therefore suitable for different wall thicknesses, as can be seen in figures 4 and 5, the wall 2 being in fact sandwiched between the teeth 12 and the flange 22.

10 The flange 22 is adapted to be compressed by an axial force; it is adapted to be compressed between the head 6 and the wall 2 so that, when the device 1 is fixed in position on the wall 2, the first and second bearing surfaces 23, 24 respectively bear against the abutment surface 20 of the head 6 and the first face 7 of the wall 2 (see figures 4 and 5).

15 When compressed in this way, the flange 22 firstly provides a seal at the junction between the head 6 and the wall 2 and secondly brakes unscrewing of the head 6 by acting like a lock-nut.

20 The flange 22 applies to the head 6, on the one hand, a friction force through the intermediary of its first bearing surface 23, which bears on the abutment surface 20, and, on the other hand, by virtue of its inherent elasticity, a force normal to the first face 7 of the wall 2, which force tends to push the head 6 away from the wall 2 and to lock the respective threads of the head 6 and the base 5.

25 Moreover, when it is compressed between the head 6 and the wall 2, the second bearing surface 24 of the flange 22 exerts a friction force on the first face 7 of the wall 2. The flange 22 therefore constitutes a complementary brake to prevent free rotation of the base 5 relative to the wall 2.

30 The base 5 has a substantially cylindrical hole 25 through it, from the first end 11 to the second end 18, through which the cable 4 is passed.

35 To seal the junction between the base 5 and the

cable 4, the base 5 further includes a frustoconical flexible elastic membrane 26 whose axis is the axis A'.

5 The membrane 26 has, on the one hand, a first end 27 fixed to the second end 18 of the base 5 and which defines a first mouth 28 through which the cable 4 is inserted into the base 5 and passed through the hole 25 through it.

10 The membrane 26 includes, on the other hand, a second free end 29 which defines a second mouth 30 facing toward the first end 11 of the base 5.

The membrane 26 extends between its two mouths 28, 30, across at least a portion of the hole 25, as can be seen in figures 1 and 2, 4 and 5.

15 The inside diameter of the second mouth 30 is chosen to be less than the outside diameter of the cable 4 so that, when the cable 4 is inserted into the hole 25, the second mouth 30 is distended and espouses the outside surface of the cable 4, thereby fulfilling its sealing function.

20 Here the membrane 26 is made of the same material as the belt 21 and the flange 22 and is molded onto the base at the same time as them.

The head 6 is described next.

25 As can be seen in figures 1, 4, 5, the head 6 takes the form of a cap including a substantially cylindrical skirt 31 which has an axis A" which is substantially coincident with the axis A' of the base 5 when the head 6 is screwed onto it.

30 The skirt 31 has an outside surface 32 and an inside surface 33 forming a bore through the head 6.

The bore 33 extends from the first free end 20, which forms a first circular opening 34 in the vicinity of which the bore has a threaded portion 35, to a second free end 36, opposite the first free end 20.

35 The second end 36 defines a second opening 37 which

is essentially circular and whose diameter is sufficient for the cable 4 to pass through it.

5 A flexible elastic membrane 38 is fixed to the second end 36 to form an easily torn film blocking the second opening 37.

This circular film 38 has a weaker area 39 in the vicinity of its center which is pushed inward, in particular when the cable 4 is inserted, to cause the film 38 to start tearing.

10 Here the film 38 is molded onto the head 6 and is made of the same material as the membrane 26.

To retain the cable 4 in the head 6, the latter further includes an insert 40 fixed in the bore 33 coaxially with the head 6.

15 The insert 40 has an annular portion 41 and a plurality of elastic blades 42 forming hooks, arranged in a star configuration, and each having a first portion 43 projecting axially from the annular portion 41 in the direction of the second opening 37 of the head 6 and a radial second portion 44 curved inwardly and toward the first opening 20.

20 Each radial portion 44 is extended by a free end 45 forming a point adapted to be interengaged with the outside surface of the cable 4 to prevent it being withdrawn from the head 6, the free ends 45 together defining around the axis of the insert 40 a free space 46 sufficient for the cable 4 to pass through.

25 To retain the insert 40 in the head 6, the head includes, on the one hand, at a distance from its first end 20, an annular bead 47 projecting from the inside surface 33, and, on the other hand, fins 48 projecting from the inside surface 33 near the second opening 37.

30 The head 6 has at its second free end 36 an annular radial end wall 49 defining the second opening 37 and the fins extend axially as far as the end wall 49.

The insert 40 is clipped into the head 6, in which it is trapped between the bead 47 and the fins 48.

5 The cable 4 can therefore be inserted without difficulty into the head by forcing the radial portions 44 of the blades 42 to flex outward. However, the blades 42 prevent unintentional withdrawal of the cable 4 by biting into its outside surface.

10 Figure 6 shows a first variant. This first variant differs from what is described above in that the head 6 has no fins and, instead of the bead 47 previously cited, includes clipping teeth 50 projecting radially from the inside surface 33. The insert 40 is clipped between the teeth 50 and the end wall 49.

15 Figures 6 to 8 show a second variant in which the head 6 includes complementary holding means to facilitate gripping the head 6 and to increase the clamping torque that can be applied to it when screwing it onto the base 5.

20 The complementary holding means take the form of a series of exterior beads 51 extending axially along the outside surface 32 of the head 6.

To simplify the fabrication of the head, the beads 51 are molded onto the head 6 at the same time as the film 38, with which they are in one piece.

25 Figure 9 shows a third variant.

This variant differs from what is described above in that the second compressible member 22 takes the form of a washer 22' rather than a flange, the washer 22' being threaded over the shank 10, but separate from it.

30 To this end, the shank 10 includes, between the central portion 19 and the shoulder 17, a shoulder 52 adapted to receive the washer 22' when it is threaded over the base.

35 The washer 22' has the same functions as the flange previously described except for braking or preventing

rotation of the base 5.

In a fourth variant, shown in figure 6, the belt 21 has a frustoconical outside surface so that it can adapt to holes with slightly different diameters, thereby providing some tolerance when making the hole 3.

In a fifth variant, shown in figure 10, the belt 21 has a portion 53 which covers at least part of the bearing surface 15 of the teeth 12. When the base 5 is clipped into the wall 2 and the head 6 is screwed onto the base 5 so that the device 1 is in the fixing position, the portion 53 is compressed between the bearing surface 15 and the second bearing surface 24 of the wall 2.

The portion 53 has a two-fold function. On the one hand it forms a complementary brake to prevent free rotation of the base 5 in the hole 3 by exerting a friction force against the second bearing surface 24.

On the other hand, by virtue of its inherent elasticity, it helps to maintain a tension between the respective threaded parts 16, 35 of the base 5 and the head 6 which brakes free rotation of the head 6 on the base 5.

In a sixth variant, shown in figure 11, the device 1 further includes means 54 for clipping the head 6 onto the base 5 when it has been screwed far enough onto it.

The clipping means 54 include, on the one hand, teeth 55 projecting radially from the inside surface 33 of the head 6 and situated at a distance from the clipping teeth 50 of the insert 40, on the same side as the first opening 34.

The clipping means 54 further include claws 56 projecting longitudinally from the base 5 at the end opposite the shank 10.

Each claw 56 has a free end 57 which is curved outward.

The claws 56 are adapted to flex inward when their free ends 57 encounter the teeth 55 as the head 6 is screwed onto the base 5.

5 When the free ends 57 have moved beyond the teeth 55 toward the interior of the head, the claws 56 spread outward and the base 5 and the head 6 are clipped irreversibly and are thereafter inseparable.

10 In a different variant, the belt is a strip attached to the shank by being threaded over it and retained on it by virtue of its inherent elasticity.

15 In a variant that is not shown the head has an interrupted screwthread, the threaded portion of the head consisting of a plurality of uniformly threaded angular sectors arranged around the circumference of the inside surface and separated by sectors that are not threaded.

20 In another variant that is not shown the threaded part of the head has a double thread and includes two interleaved threads, which makes clamping quicker and prevents excessive clamping of the head on the base while it is being screwed on.

The base can of course include more than two teeth.

The dimensions and the materials of the belt 21, the flange 22 or the washer 22' can of course be different from those cited above by way of example.

25 In particular, the person skilled in the art can choose for the belt 21 a material that is more or less compressible and a larger or smaller outside diameter, according to whether the aim is to brake or prevent rotation of the base 5 in the hole 3.

30 It is of course possible to combine the variants that have just been described without departing from the scope of the invention.

What is more, the invention is not limited to a cable entry device as described hereinabove.

35 In particular, the device can be used to assemble

two separate parts each including a wall with a hole through it. This kind of device is used by inserting its base through the two aligned holes and then screwing the head onto the base to clamp the two walls simultaneously
5 between the teeth on the base and the head.

The device can equally constitute a support for a cable that is to be run along a wall, the head including means for attaching the cable, for example.

Its head can equally carry a control button or an
10 indicator lamp to be disposed on a control or display panel.



CLAIMS

1. A device adapted to be fixed to a wall blindly and including:

5 - a threaded base which is pushed through a hole formed through said wall and includes:

- a shank having opposite first and second free ends;

10 - flexible teeth which adopt a rest position in which they project radially from the shank when no force is applied to them and can retract elastically from this rest position, said teeth having a radial bearing surface facing away from said free end, and

15 - a head adapted to be screwed onto the base and having an abutment surface which faces toward the bearing surface of said teeth when the head is screwed onto the base,

20 which device further includes an elastically compressible member adapted to be compressed by a radial force and covering at least part of said shank in the vicinity of the teeth at the end opposite the free end of the shank.

2. A device according to claim 1, wherein said compressible member takes the form of an annular bead surrounding the shank.

25 3. A device according to claim 1 or claim 2, wherein said compressible member is fixed permanently to the shank.

4. A device according to claim 3, wherein said compressible member is molded around the shank.

30 5. A device according to any of claims 1 to 4 wherein said member is made of an elastomer material.

6. A device according to any of claims 1 to 5, further including a second compressible member extending radially around said shank and including:

35 - a first bearing surface which faces the abutment surface of the head when the head is screwed onto the



base; and

- a second bearing surface which faces the bearing surface of the teeth.

5 7. A device according to claim 6, wherein the first and second compressible members form a one-piece assembly.

10 8. A device according to claim 7, wherein the second compressible member takes the form of a flange in one piece with the first compressible member and situated at a distance from the teeth so that a free space is formed between the second bearing surface of the flange and the bearing surfaces of the teeth.

15 9. A device according to claim 8, wherein said one-piece assembly has a section in the shape of an angle-iron.

10. A device according to claim 6, wherein the second compressible member takes the form of a washer adapted to be threaded over the shank.

20 11. A device according to any of claims 1 to 10, wherein the base includes a shoulder situated at a distance from the teeth at the end opposite the first free end and forming a radial abutment surface that faces the bearing surfaces of the teeth so that a space is formed between the teeth and said shoulder.

25 12. A device according to claim 11, wherein the first compressible member is situated in the space formed between said teeth and said shoulder.

30 13. A device according to claim 11 or claim 12, wherein the base has a threaded portion extending from said shoulder toward the second free end.

14. A device according to any of claims 1 to 13, wherein the base is hollow and has a substantially cylindrical hole through it extending from one end to the other.

35 15. A device according to claim 14, further



including a frustoconical elastic flexible membrane having:

- a first end fixed to the second end of the base and defining a first mouth; and

5 - a second free end defining a second mouth facing toward the first end of the shank, said membrane extending, between its two mouths, across at least a portion of said hole.

10 16. A device according to claim 15, wherein said membrane is made of an elastomer material.

17. A device according to claim 15 or claim 16, wherein said membrane is made of the same material as said compressible member.

15 18. A device according to any of claims 15 to 17, wherein said membrane is molded into the base.

19. A device according to any of claims 1 to 18, wherein the head is a cylindrical component including:

- a bore which is at least partly threaded;
- a first end defining a first substantially circular opening and forming said abutment surface; and
- 20 - a second end opposite the first end and defining a second substantially circular opening.

25 20. A device according to claim 19, wherein the head further includes an elastic flexible membrane fixed to the second end of the head and forming a readily torn film blocking the second opening.

30 21. A device according to claim 20, wherein said film is circular and has in the vicinity of its center a weaker area which can be depressed to cause the film to start to tear.

22. A device according to claim 20 or claim 21, wherein said film is made of an elastomer material.

35 23. A device according to any of claims 20 to 22, wherein said film is made of the same material as said compressible member.



24. A device according to any of claims 20 to 23, wherein said film is molded onto the head.

25. A device according to any of claims 19 to 24, further including an insert which is inserted and fixed into the hole in the head, said insert and the head being coaxial and said insert including:

- an annular portion; and
 - a plurality of elastic blades each including:
 - a first portion projecting axially from said annular portion toward the second opening; and
 - a second portion curved toward the first opening and toward the axis of the insert and extended by a free end forming a point;
- the points together defining a free space around the axis of the insert.

26. A device according to claim 25 wherein the head further includes:

- an inside radial projection at a distance from its first end; and
- an abutment at a distance from said projection; and said insert is clipped into the head and trapped between said projection and said abutment.

27. A device according to claim 26, wherein the head has a threaded portion extending between the first end and said projection.

28. A device according to claim 27, wherein said threaded portion has an interrupted thread and includes a plurality of threaded sectors separated by sectors that are not threaded.

29. A device according to claim 27, wherein said threaded portion has a double thread and includes two interleaved threads.

30. A device according to any of claims 1 to 29, wherein the head includes a series of exterior beads extending in the axial direction.

31. A device according to any of claims 20 to 24, wherein the head includes a series of exterior beads extending in the axial direction and in one piece with said film.

5 32. A device according to any of claims 1 to 31, wherein the elastically compressible member covers at least part of said bearing surface.

33. A device according to any of claims 1 to 32, including means for clipping the head to the base.

10 34. A device according to claim 33, wherein said clipping means include, on the one hand, teeth belonging to the head and, on the other hand, claws belonging to the base, and said claws are adapted to cooperate with said teeth.

15 35. A cable entry device for passing a cable through a wall by means of a hole formed through said wall, which device takes the form of a device according to any of claims 1 to 34, the base and the head being hollow to enable the cable to pass through them.

20 36. A device adapted to be fixed to a wall blindly substantially as hereinbefore described with reference to the accompanying drawings.

25 37. A cable entry device substantially as hereinbefore described with reference to the accompanying drawings.

