container (12) is made of plastic, the bumps (123) can be integrally formed with a cylindrical structure.

[0029] The bumps (123) of FIG. 2 collaborate with the recess (118) of FIG. 3A, such that the mounting plate (11) and the container (12) can be coupled together and separated. The size of the first restrictive area (1181) matches the size of the bumps (123). The first restrictive area (1181) ensures that the bumps (123) can move only in a first direction (A). The size of the second restrictive area (1182) matches the size of the bumps (123). The second restrictive area (1182) ensures that the bumps (123) can move only in a second direction (B). Alternatively, the first restrictive area (1181) ensures that the bumps (123) cannot move in the second direction (B). The second restrictive area (1182) ensures that the bumps (123) cannot move in the first direction (A). As shown in the drawing, the first direction (A) and second direction (B) are substantially perpendicular to each other. However, in another possible embodiment, depending on the design of the recesses, the first direction and second direction may not be perpendicular to each other.

[0030] FIG. 3B and FIG. 3C show the process where the first connection member of the mounting plate (11) and the second connection member of the container (12) collaborate with and connect to each other. The open side (121) of the container (12) approaches the contact surface (112) of the mounting plate (11), with the bumps (123) corresponding in position to the recesses (118), until the bumps (123) slide into and pass through the first restrictive area (1181) of the corresponding recesses (118) to finally stop at the contact surface (112). The foregoing is the first step of coupling together the mounting plate (11) and the container (12). Within the first restrictive area (1181), the bumps (123) can only

slide in the first direction (A), such that the mounting plate (11) and the container (12) can approach each other or move away from each other. When the bumps (123) are at the endpoint of the first restrictive area (1181), the container (12) can be rotated such that the bumps (123) slide in the second direction (B) and pass through the second restrictive area (1182), which is the second step of coupling together the mounting plate (11) and the container (12), as shown in FIG. 3B. Within the second restrictive area (1182), the bumps (123) can only slide in the second direction (B) until the bumps (123) completely stay in the second restrictive area (1182), such that the bumps (123) and recesses (118) engage with each other. The second restrictive area (1182) stops the bumps (123) from sliding in the first direction (A), so as to prevent separation of the mounting plate (11) and the container (12). Likewise, the mounting plate (11) and the container (12) can be separated by reverse operation.

[0031] The recesses (118) and the bumps (123) can have fine structures so as to engage with each other better and avoid inadvertent disconnection. In another embodiment, the recesses (118) and the bumps (123) may be swapped in position, with the recesses (118) formed at the second connection member of the container (12), and the bumps (123) at the first connection member of the mounting plate (11). In another embodiment, the container is of a smaller size than the ring-shaped connection member, i.e. the outer surface of the container (12) faces an inner lateral surface of the ring-shaped connection member (116), such that the recesses (118) can be formed on an inner lateral surface of the ring-shaped connection member (116), allowing the bumps (123) to be provided on the outer lateral surface of the container (12). Although the aforesaid variations are

CLAIMS

1. An embedded fire-resistant device, comprising:

a mounting plate having a contact surface configured for contacting a building and a first connection member provided on the contact surface;

a container having an open side and a second connection member provided on the open side; and

a fire-resistant member received in the container,

wherein the first connection member and the second connection member are configured to be detachably connected, such that the mounting plate and the container are detachably coupled together, wherein the first connection member has a plurality of recesses, and the second connection member has a plurality of bumps configured to be received in the plurality of recesses, wherein the plurality of recesses define a sliding path for the corresponding bumps, and the sliding path has two different sliding directions.

2. An embedded fire-resistant device, comprising:

a mounting plate having a contact surface configured for contacting a building and a first connection member provided on the contact surface;

a container having an open side and a second connection member provided on the open side; and

a fire-resistant member received in the container,

wherein the first connection member has a connection surface and a plurality of recesses defined on the first connection member, and

the second connection member has a plurality of bumps configured to be detachably received in the plurality of recesses, such that the mounting plate and the container are detachably coupled together.

3. The device of claim 2, wherein the connection surface of the first connection member and an inner lateral surface of the container oppose each other when the mounting plate and the container are coupled, and the bumps of the second connection member of the container are provided on an inner lateral surface of the container, wherein the recesses of the first connection member and the inner lateral surface of the container oppose each other to allow the bumps to slide in a direction into the recesses.

4. An embedded fire-resistant device, comprising:

a mounting plate having a contact surface configured for contacting a building and a first connection member provided on the contact surface;

a container having an open side and a second connection member disposed on the open side; and

a fire-resistant member received in the container,

wherein the first connection member has a connection surface with a plurality of recesses, and the plurality of recesses each has a first restrictive area and a second restrictive area,

wherein the second connection member has a plurality of bumps, the bumps each is movable in a first direction to pass through the first restrictive area of the corresponding recesses, the bumps each are movable in a second direction to pass through the second restrictive area of the corresponding recesses, and the first direction is different from the

second direction, such that the recesses detachably receive the bumps, in order to couple together or separate the mounting plate and the container.

5. The device of claim 4, wherein the first restrictive area prohibits movement of the corresponding bumps in the second direction, and the second restrictive area prohibits movement of the corresponding bumps in the first direction, wherein the size of the first restrictive area is greater than the size of the second restrictive area.

6. A method of using the embedded fire-resistant device of claim 1, wherein the embedded fire-resistant device is embedded in a hole of a building, the method comprising the steps of:

separating the embedded fire-resistant device from the hole of the building;

separating the container from the mounting plate to expose the fire-resistant member disposed in the container;

replacing the fire-resistant member;

connecting the mounting plate and the container; and

placing the container in the hole of the building.

7. A mounting plate used in an embedded fire-resistant device, comprising:

a contact surface configured for contacting a building; and

a first connection member provided on the contact surface,

wherein the first connection member is configured to detachably connect to a second connection member of a container placed in the building via a means for detachable connection, wherein the container receives a fire-resistant member, wherein the means for detachable connection includes the first connection member with a plurality of

recesses defined thereon, wherein the plurality of recesses define a sliding path for the connection, and the sliding path has two different sliding directions.