

2017

PATENT ATTORNEYS

EXAMINATION

PAPER D

The Preparation of Specifications
for New Zealand Patents

Regulation 158(1)(d)

Duration: 4 hours (plus 10 minutes for reading)

General instructions for this paper:

Only the prior art that is referred to is to be taken into account in your answer. You must not take into account any prior art that you are separately aware of.

This exam has only one question with two parts for a total mark of 100 for the paper.

An additional set of drawings is provided at the end of this question that you may use in your answer.

QUESTION

Your client Pharaoh Zapa is a professional picture hanger. He met with you recently to explain a new idea. Pharaoh has been installing artwork for years and keeps encountering the same problems on many of his projects when it comes to placing or removing anchors in walls used for hanging pictures and the like.

He tells you that interior walls of houses are often constructed with timber frames covered by a type of plaster board. If an article such as a picture is to be hung on such a wall, provided a stud of the timber framing can be found, it is possible to drive a nail or screw through the plaster board into the stud to form an anchor for the article to be hung. The plaster board is typically made of gypsum and is not by itself strong enough to support a nail or screw. This is particularly a problem when heavy items such as large framed pictures, mirrors, or shelves are to be hung on the wall.

Pharaoh explains that there are various devices available which enable objects to be supported directly by the plaster board when there is no stud conveniently located behind the plaster board. But he gets frustrated because many of the available devices cannot be reused. It also annoys him that they require a screw having a thread of certain size. Homeowners and picture hangers will usually have many different screws lying around that they may want to use rather than trying to find a matching screw.

Pharaoh provided you with drawings showing some known anchor devices. Figure 1 shows an anchor device that Pharaoh calls a gravity toggle device. The device has a toggle body 1 that

pivots about a nut 2 so that when the toggle body is aligned with the screw 3 the device can be inserted in a hole in a wall and then when the toggle body reaches the inside of the plaster board, it will pivot under gravity to the position shown in Figure 1. The screw 3 can then be tightened to force the toggle body against the interior face of the plaster board to provide an anchor. Pharaoh prefers not to use the gravity toggle device because if the screw is removed, the toggle body will drop away and cannot be recovered to be reused. A picture hook can be hung on the screw 3 before the device is inserted into the wall, so that a picture can be hung from the device once the device is anchored into the wall.

Figures 2a to 2c illustrate another prior art anchor known as a wall plug. The plug has a split body 14 that initially has the configuration shown in Figures 2a and 2c. The body 14 is inserted into a hole in the plaster board. After insertion in the hole, a screw 15 engages with the end 16 of the body that is outside the plaster board, and is turned so that the opposite end 17 of the body is forced apart by the screw, as indicated by the arrows in Figure 2a. The body is provided with features 18 that assist with engagement with the plaster board as the end 17 of the body is forced apart, and help prevent the anchor being accidentally pulled out of the plaster board. The device has projecting teeth 19 which provide limited engagement with the plaster board by biting into the front surface of the plaster board to prevent the body 14 turning when the screw is turned.

Pharaoh notes that while the wall plug of Figures 2a to 2c provides better engagement with the plaster board than just using a nail or screw, it does not provide enough support to support heavier items.

Figures 3a and 3b illustrate another prior art anchor. Pharaoh told you that this anchor is made entirely from metal and that it has parts 29 that expand once the device has been inserted into a hole 33 in the plaster board 34. A screw 28 engages with the end 27 of the body 26 so that when the screw 28 is tightened the parts 29 expand and press against the interior face of the plaster board. The device has projecting teeth 35 which provide limited engagement with the plaster board 34 by biting into the front surface of the plaster board to prevent the body 26 turning when the screw is turned.

An advantage of this device is that the screw can be removed and replaced at any time. But, annoyingly, the screw needs to have a thread that matches the end 27. This means that users may not be able to use screws they have lying around. Pharaoh also mentioned that once expanded the expandable parts 29 cannot be bent back which means that the device is not able to be removed from the wall or reused.

Pharaoh enthusiastically tells you about his new device which he believes can use a variety of different types of screws and can be reused. He thinks the device will very quickly become the preferred choice of anchor devices for picture hangers and DIYers.

Pharaoh's device is a one piece plastic moulding as shown in Figures 4a to 4d. Figures 4a and 4b show the device in its rest position. The device has wings 37 that can flex between the positions shown in Figures 4a to 4d. Initially, a user pushes the wings 37 together from the position shown in Figures 4a and 4b, to the position shown in Figure 4c. The wings 37 and body 36 are inserted into a hole in the plaster board 38. A screw 30 is then passed through a hole 35 in the body 36 and into a hole 31. The screw thread engages the hole 31 so that when the screw is turned, the wings 37 will spread and compress against the interior face of the plaster board as shown in Figure 4d. The body 36 of the anchor has projections 32 to prevent rotation of the anchor in the hole in the plaster board. The screw 30 can be removed from the device so the device can be removed from the plaster board 38.

Pharaoh believes his device is very innovative and asks you to file a patent application to protect it.

1. Prepare a complete specification for filing at the Intellectual Property Office of New Zealand.

(90 marks out of 100)

2. Briefly explain to Pharaoh, in a series of short statements or bullet points, the purpose of each of the different parts of a complete specification, and outline your reasoning or approach to the claims including an explanation of how the claims you drafted protect Pharaoh's invention.

(10 marks out of 100)

END OF QUESTION

1/3

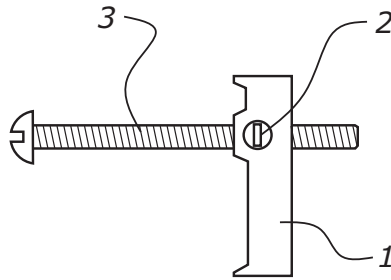


FIGURE 1
(Prior Art)

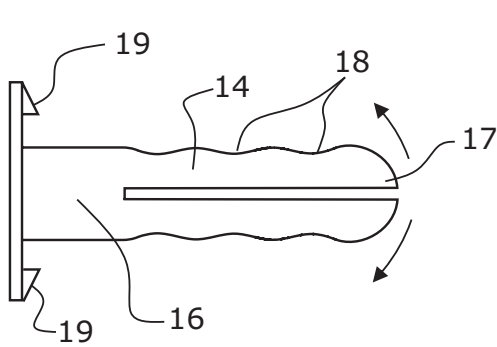


FIGURE 2a
(Prior Art)

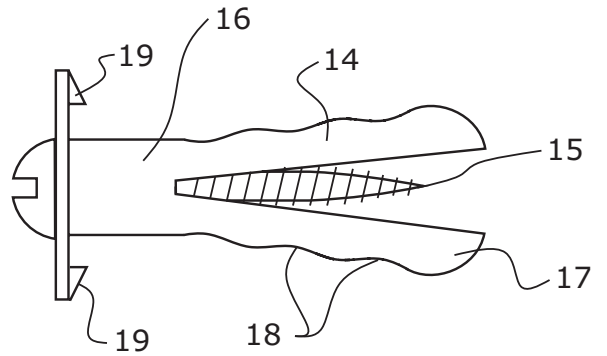


FIGURE 2b
(Prior Art)

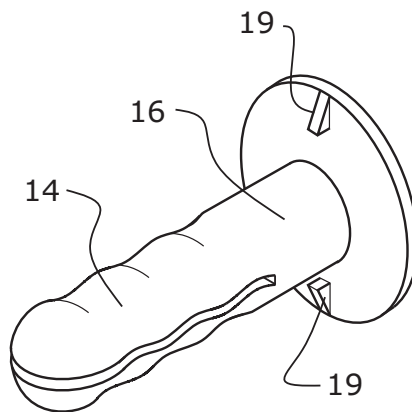


FIGURE 2c
(Prior Art)

FIGURE 3a
(Prior Art)

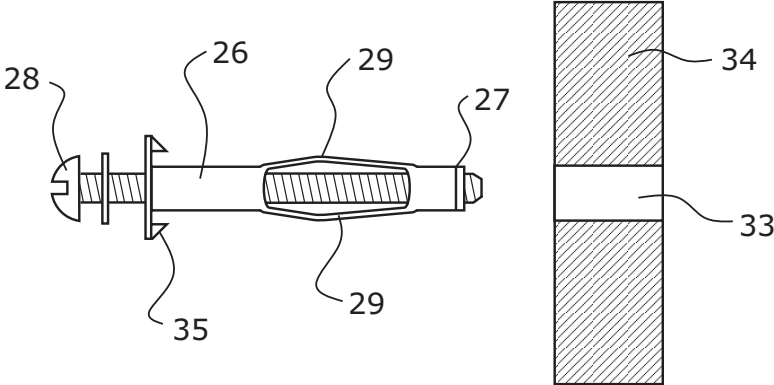
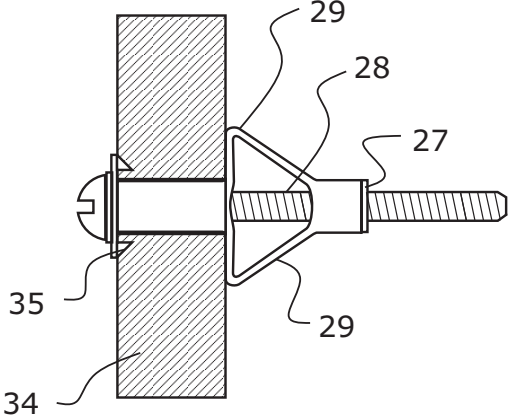


FIGURE 3b
(Prior Art)



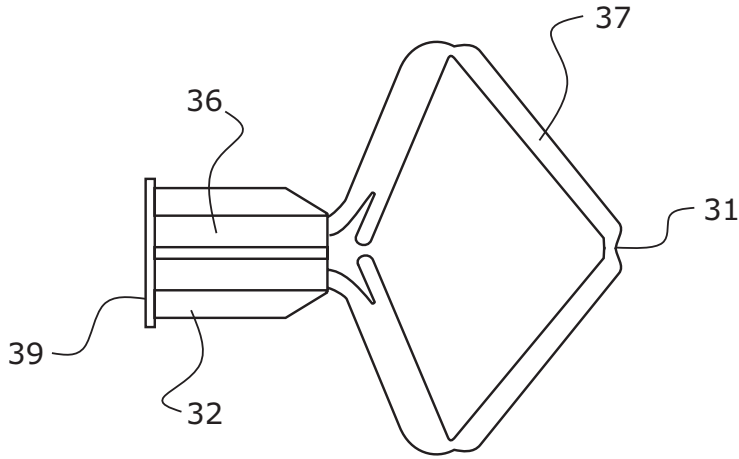


FIGURE 4a

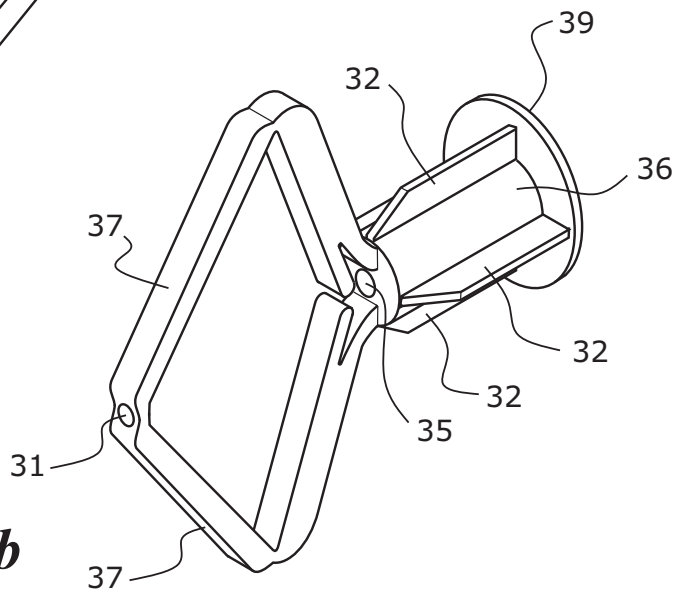


FIGURE 4b

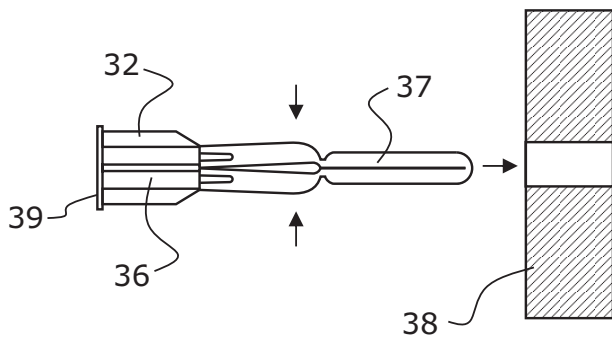


FIGURE 4c

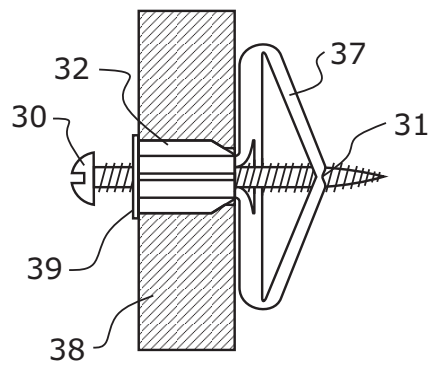


FIGURE 4d

