

2018

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 question:

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.

You have a meeting with a new client Pam, to talk about a new idea she's working on. For years, Pam has been curling her hair with hair rollers. The rollers Pam has been using have a hard plastic body with a cage that fits over the plastic body, and are shown in Figure 1. To use the rollers, Pam starts with wet or damp hair. She then wraps sections of her hair around each roller, places the cage over the roller and rolled hair, and secures the roller in place with a metal clip. The hard rollers have openings, so moisture can escape through the openings allowing Pam's hair to dry. Once Pam's hair is dry, she removes the rollers and has beautiful curly hair.

Pam doesn't really like these rollers because they are quite heavy on her head. Also, they're uncomfortable, if she rests her head against another surface. Pam usually sleeps with the rollers in her hair and she would really like a set of rollers that would be comfortable while she sleeps. Pam has developed a roller with a soft foam body and a wire in the middle, which is shown in Figures 2 to 4. Figure 3 shows a cross-section of the roller of Figure 2. To use the rollers, Pam explains that a user would wrap a section of their hair around each roller, just like the existing rollers. But instead of using a separate clip to secure the roller, the wire in the middle of the roller allows the user to bend or shape the roller, which secures the roller in place. The roller can be bent in half, or the ends can be folded back, to secure the roller.

Because the rollers have a soft foam body, the rollers will be comfortable to sleep in. Also, the user doesn't have to worry about losing the clips. Another option is for the rollers to have connections at each end. When the rollers are folded, the connections can join together, holding the rollers in the folded shape.

Pam has been experimenting with different foam materials. Some foam materials absorb water from the hair and then stay damp for hours. The damp foam stops the hair from drying. Pam has worked out that it's best if the foam is a water repellent material for people who use rollers on wet hair like she does. But she also thinks that some people will use rollers on damp hair, hair with styling products, or dry hair and then use a hair dryer to set the curls. In these situations, the rollers don't need to be water repellent.

Pam explains that the hardness of foam materials is measured on a scale called the Shore scale. She's worked out that the best hardness of the foam is between 40 and 60 on the Shore scale. If it's too soft, when the user is sleeping, the roller and the curl are squashed into a strange shape. If it's too hard, the rollers are uncomfortable.

Pam's hairdresser once told her that sleeping on a silk pillowcase was good for her hair. So Pam has developed an option of the roller that incorporates silk, shown in Figure 5. In this option, there is a piece of silk material at one end of the roller. After the hair is wound around the roller, the silk

can be wound around the hair then fastened to the body of the roller to hold it in place. Pam wonders if normal hair rollers could also have a similar arrangement with pieces of silk material at each end.

Pam tells you she has done some searching online and there are some new materials that are soft and flexible, but hold their shape after they have been bent or twisted. If the rollers were made from one of these new materials, they wouldn't need a wire.

The rollers could be provided in a kit with a few different sizes of rollers. The rollers have a length of about 15 cm and a diameter ranging from 10 mm to about 50 mm.

The wire in the middle is copper and has a diameter of about 2 mm. Another option is steel wire that is galvanized. The wire allows the rollers to be folded in half and stay in that configuration, but also be straightened out to be re-used. The ends of the wires have circular plastic end caps so there aren't sharp ends of wire sticking out.

The rollers may be manufactured by introducing the wire through a cylinder of the foam material. Another option is to extrude the foam onto the wire.

Pam said she came up with the idea after running an arts and craft event for kids at the library where she works. They were using pipe cleaners to make different characters and animal shapes. Figure 6 shows one of Pam's characters. Pam explained to you that pipe cleaners have two pieces of wire that are twisted together. Short fibres are trapped between the wires and extend outwardly from the wires. Pam thought the way the pipe cleaners held their shape might be a useful feature for a hair roller.

During your meeting, Pam lets you know that she has kept this idea confidential so far, but she wants to start making and selling her hair rollers soon. You discuss the options of filing a patent application as a provisional, or as a complete specification. After your discussion, Pam decides she wants to file a complete specification.

[QUESTION OVER PAGE]

Question

Draft a complete specification for filing at the Intellectual Property Office of New Zealand. As part of your answer, write an email or letter to Pam explaining the approach you have taken with your claims and the patent specification. You should include the following:

1. An explanation of the patent specification and which parts you want her to pay particular attention to.
2. An explanation of the terminology you have used in the claims and the specification.
3. Any questions you have for Pam.
4. Any advice you have for Pam after the patent application is filed.

Mark allocation

Complete specification	85 marks
Letter to Pam	15 marks
TOTAL MARKS	100 marks

[END OF QUESTION]

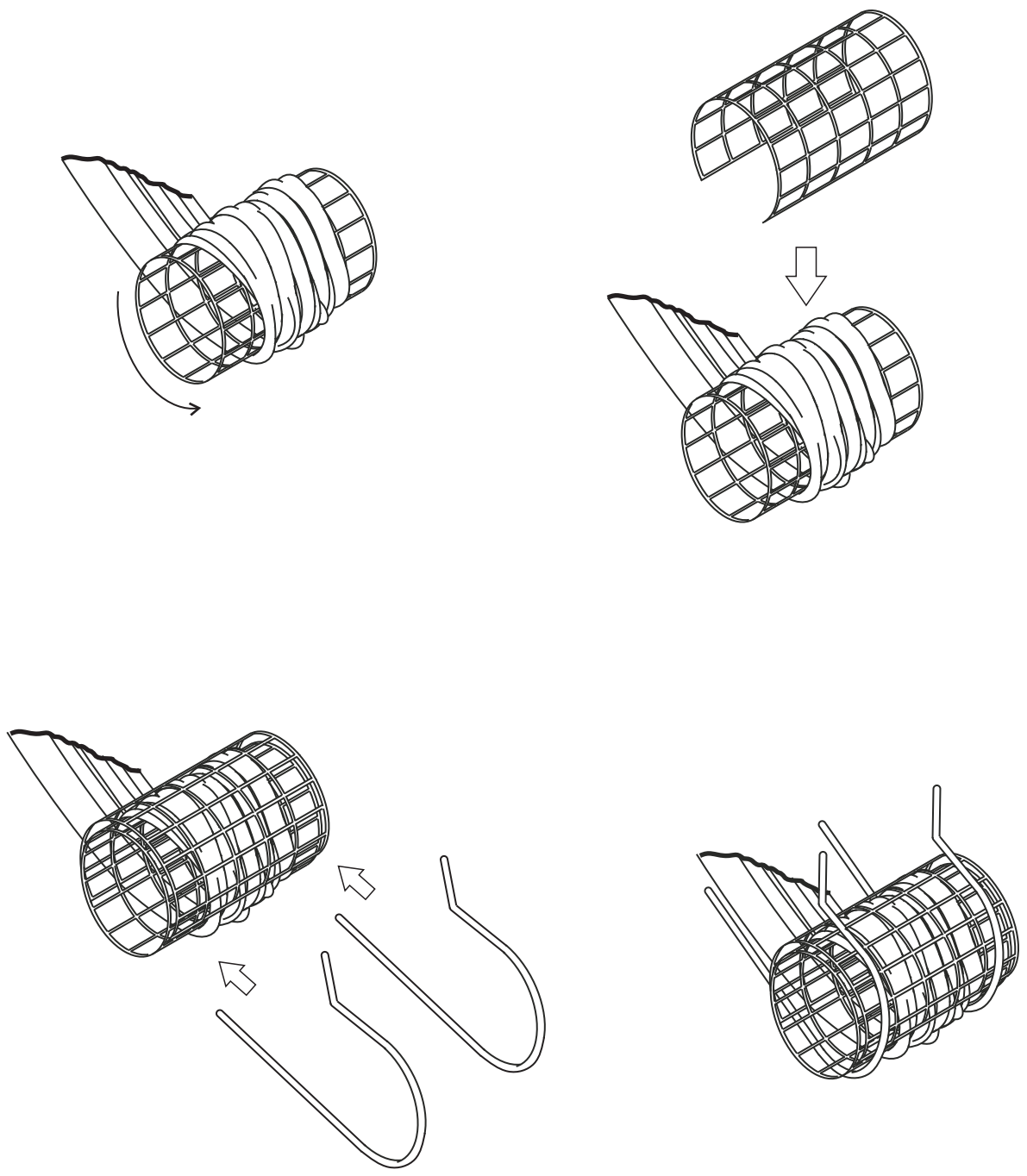


FIGURE 1

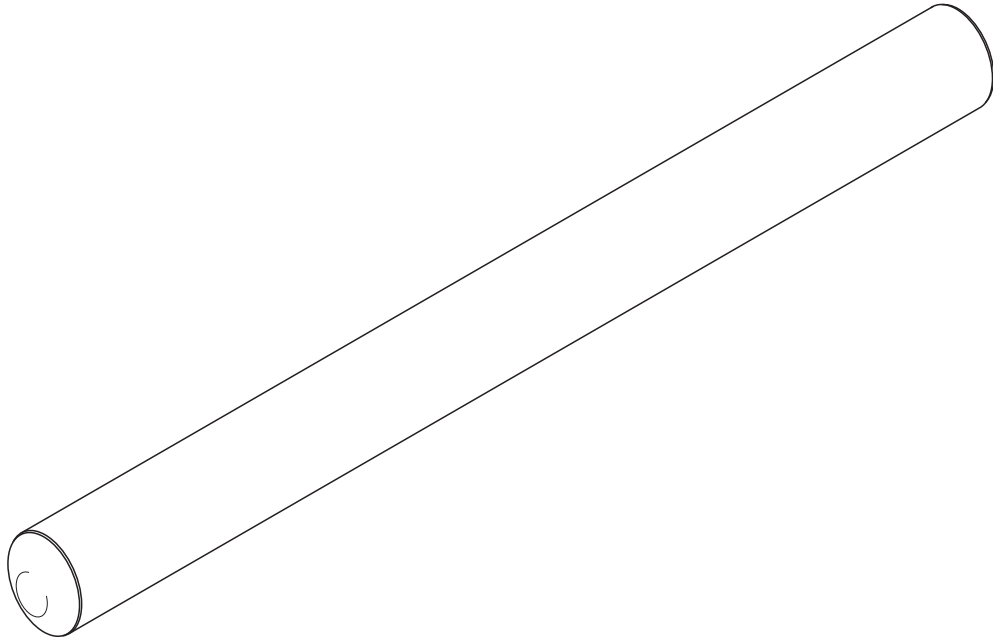


FIGURE 2

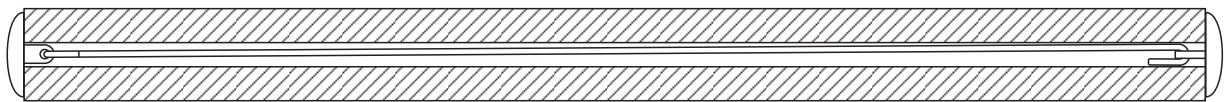


FIGURE 3

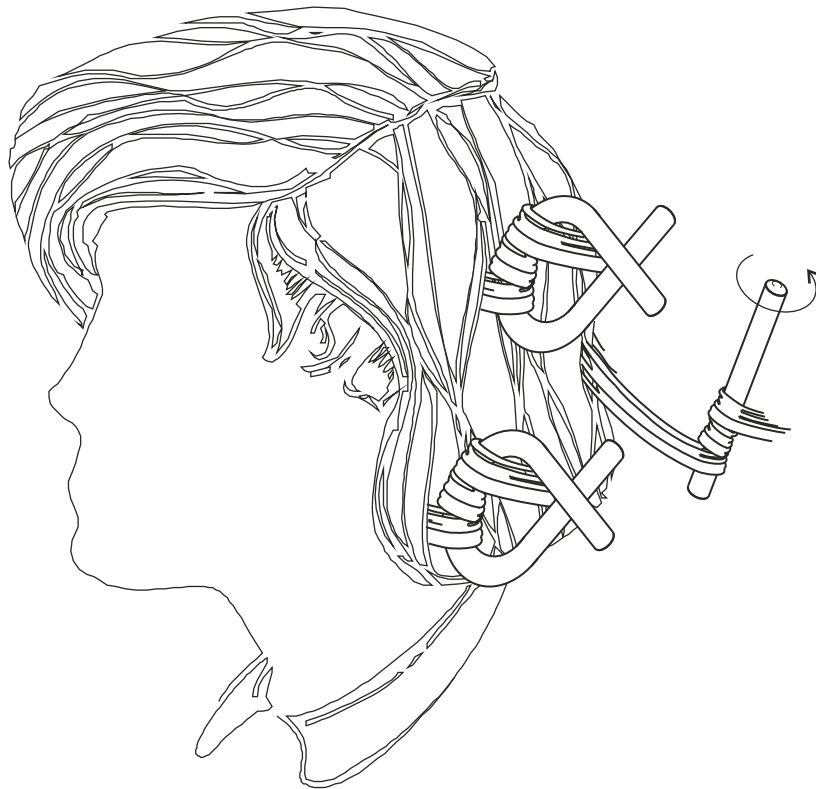


FIGURE 4

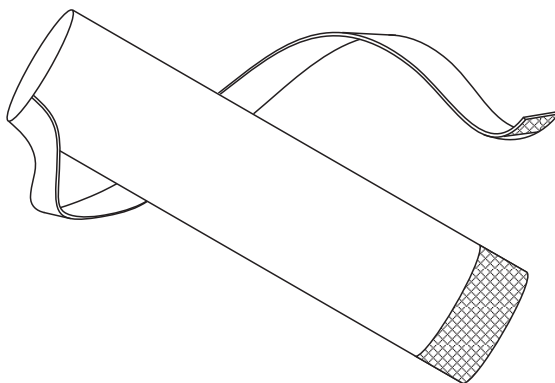


FIGURE 5

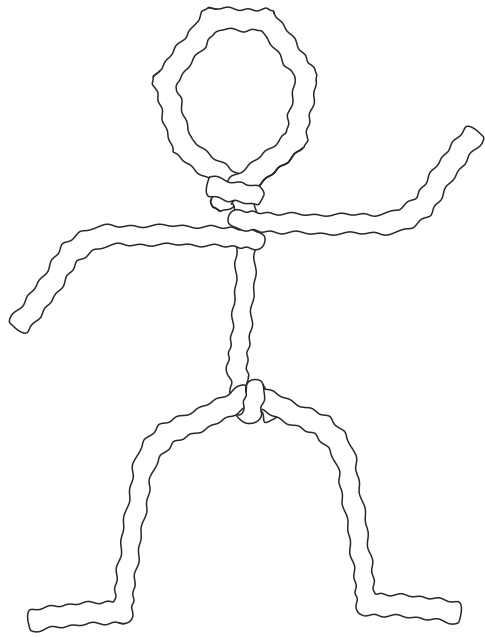


FIGURE 6

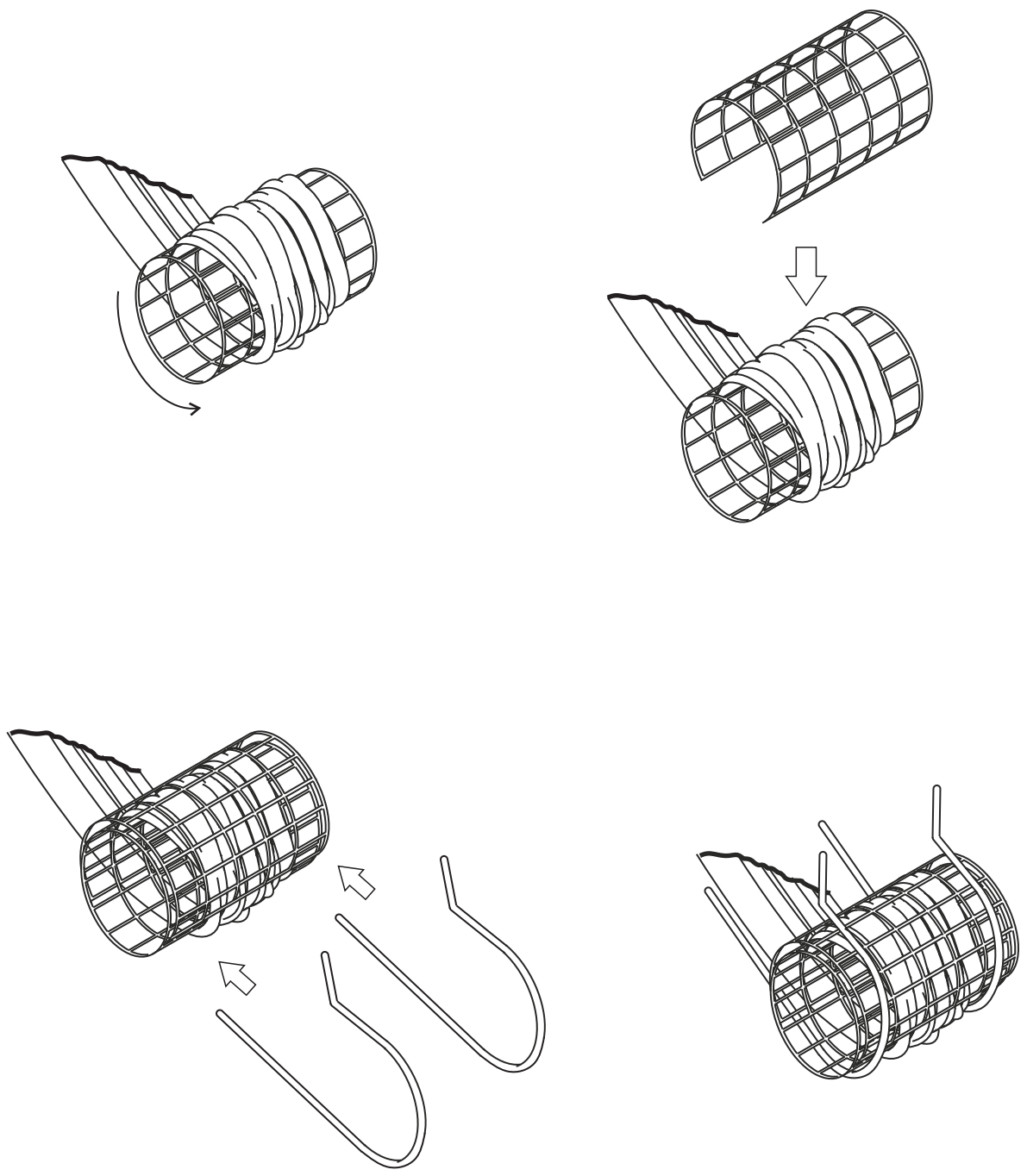


FIGURE 1

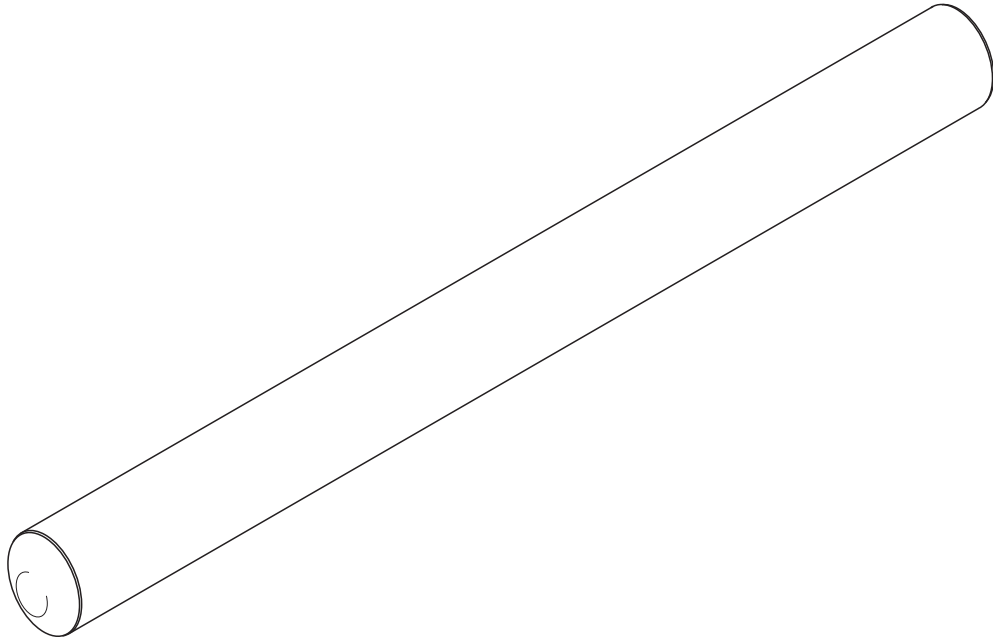


FIGURE 2

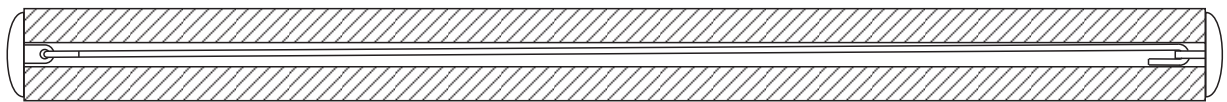


FIGURE 3

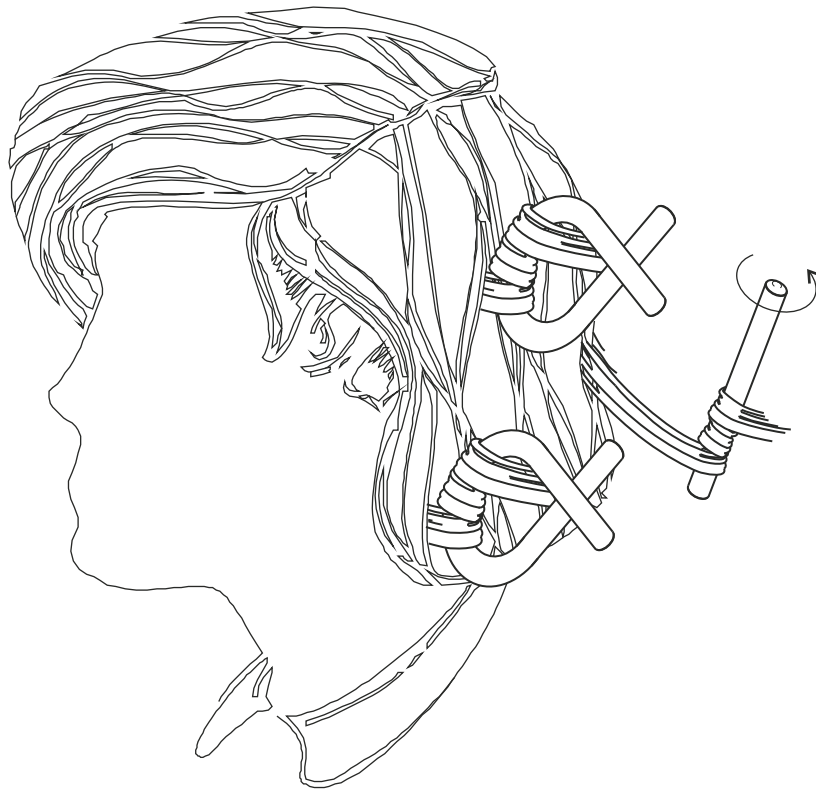


FIGURE 4

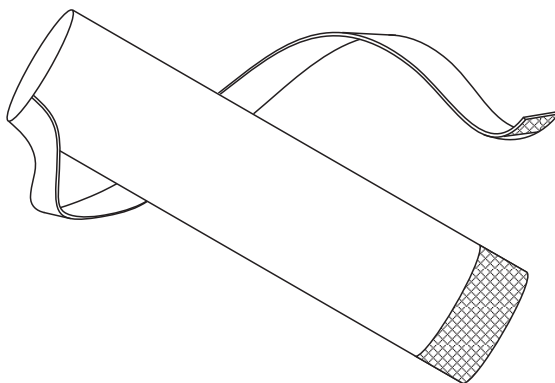


FIGURE 5

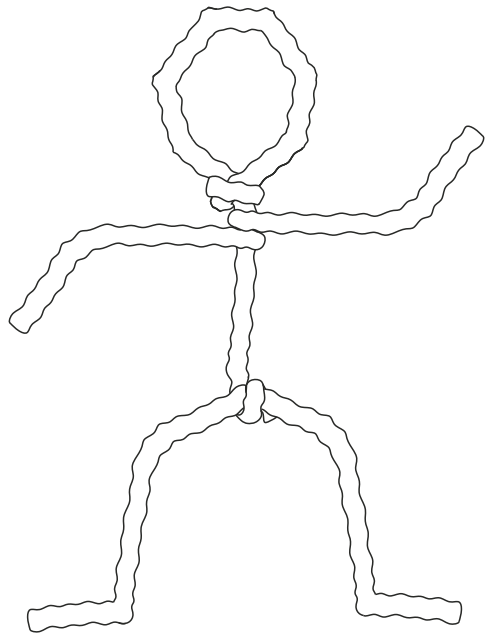


FIGURE 6