

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 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.

QUESTION

Your client, Marla, is a wardrobe organising specialist. Her job is to organise wardrobes and create more closet space. You have a meeting with her today to talk about a new idea she's working on.

During her time organising wardrobes, Marla has noticed a problem with existing coat hangers for skirts and trousers. Marla shows you a drawing of the coat hanger she is referring to, which is labelled Figure 1.

This coat hanger is a simple product. It has a straight metal rod with two clips near each end. Each clip has a torsion spring that biases the clips to a closed position, as shown in Figure 1. The coat hanger also has a hook in the middle for hanging the coat hanger from a bar in a wardrobe. The hook is mounted to the rod in such a way that it can pivot relative to the rod.

The problem with this type of coat hanger is that the springs in the clips are too strong. As a result, the clips crush delicate fabrics. Marla noticed how serious this problem was when she saw a pair of vintage velvet pants that had been hanging on a coat hanger since the 1970s. Unfortunately, the velvet has been crushed beyond repair. Another problem Marla has noticed is that the clips have sharp edges that can catch on clothes.

Marla has designed a new coat hanger for delicate material. Marla says the advantage of her new design is that the force of the clamps is spread out over a greater length than the other coat hanger. This means that the fabric of the clothes won't be crushed and the clamp won't leave marks on the clothes.

Marla shows you her drawings (Figures 2 to 7) and explains to you that the coat hanger has two jaws. Figure 2 shows each jaw having a plastic body and a metallic rod that is formed in an M-shape. The plastic bodies have smooth corners that won't catch on clothing. Marla explains with reference to Figure 3 how the jaws pivot relative to each other. One of the M-shaped rods is coiled around the other M-shaped rod to allow the jaws to pivot.

The coat hanger has a hook, like the conventional coat hanger. The lower end of the hook is formed in an S-shape, which is shown in Figure 5. The middle of each M-shaped rod has a horizontal bar. One loop of the S-shape wraps around the horizontal bar of one jaw. This allows the hook to pivot relative to the jaw. The hook can pivot from a generally horizontal position (Figure 5) to a generally vertical position (Figure 7).

The other part of the S is shaped to engage with the horizontal bar of the other jaw. As the hook is pivoted from a generally horizontal position to a generally vertical position, the S engages with the bar of the other jaw and forces the jaws towards each other.

Marla gives you a sample coat hanger. You notice that the M-shaped rods are springy and form a type of over-centre mechanism. Figure 5 shows the hook in a generally horizontal position with an arrow indicating movement of the hook in an upwards

direction. Figure 6 shows the hook in an intermediate position. Figure 7 shows the hook in a generally vertical position.

To use the coat hanger, a garment is placed between the jaws, and the hook is rotated from the position shown in Figure 5 to the position shown in Figure 6. The hook acts to push the M-shaped rods together, but their natural springiness resists that movement. To close the coat hanger, it is necessary to overcome that resistance and move the hook to a generally vertical position, as shown in Figure 7. Once in the generally vertical position, the springiness secures the hook and the jaws. Marla explains that the position of Figure 6 is the 'centre' position and the movement between Figures 5 and 7 through the centre position is what makes this movement a type of over-centre mechanism. The arrows in Figures 6 and 7 shown extending from the horizontal bars indicate the direction of forces on the hook.

Marla told you that before becoming a wardrobe organiser she had a role as a plastics tool designer. In that role she did a lot of work that involved overmoulding metallic components with plastic material. That process involves placing a metallic component in a mould, then filling the mould with plastic material. This process results in a product with a metal part and a plastic part that are permanently joined together.

For her new clothes hanger, Marla is going to use the overmoulding process that she described to you. Marla plans to make the body of each jaw from a plastics material, and the hook and the M-shaped part out of a metal rod that is bent into the required shape. The metal rod is 3.5 mm thick steel that is plated so that it doesn't rust. Marla is also thinking about making a cheaper product in which all the components are formed from a plastics material.

One other idea Marla is thinking about is having a soft or rubbery material on the inner faces of the frame that will touch the clothes when the coat hanger is being used. Marla says the rubbery material will further reduce any damage to delicate material, such as velvet or silk. In addition, the rubbery material will have a grippy surface to help hold on to the clothes. The rubbery material could be overmoulded or glued on as a separate process. Marla thinks the soft or rubbery material could be used on standard coat hangers with clips too. The drawings do not show the soft or rubbery material.

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

(90 marks out of 100)

2. Before you file the application, you will send a draft to Marla to review. As part of your answer, write an email or letter to Marla explaining the approach you have taken with your claims and the patent specification. You should include the following:
 - a) An explanation of the patent specification and which parts you want her to pay particular attention to.
 - b) An explanation of the terminology you have used in the claims and the specification.
 - c) Any questions you have for Marla.
 - d) Any advice for Marla after the application is filed.

(10 marks out of 100)

END OF QUESTION

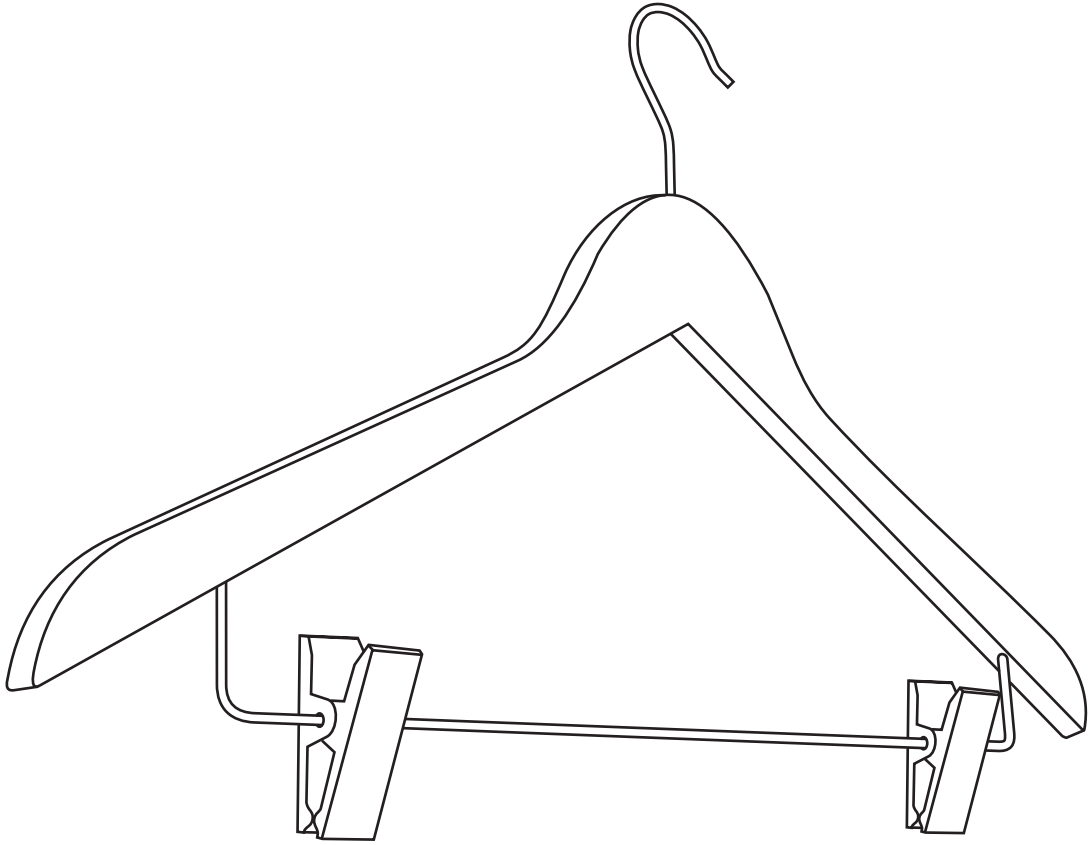


FIGURE 1

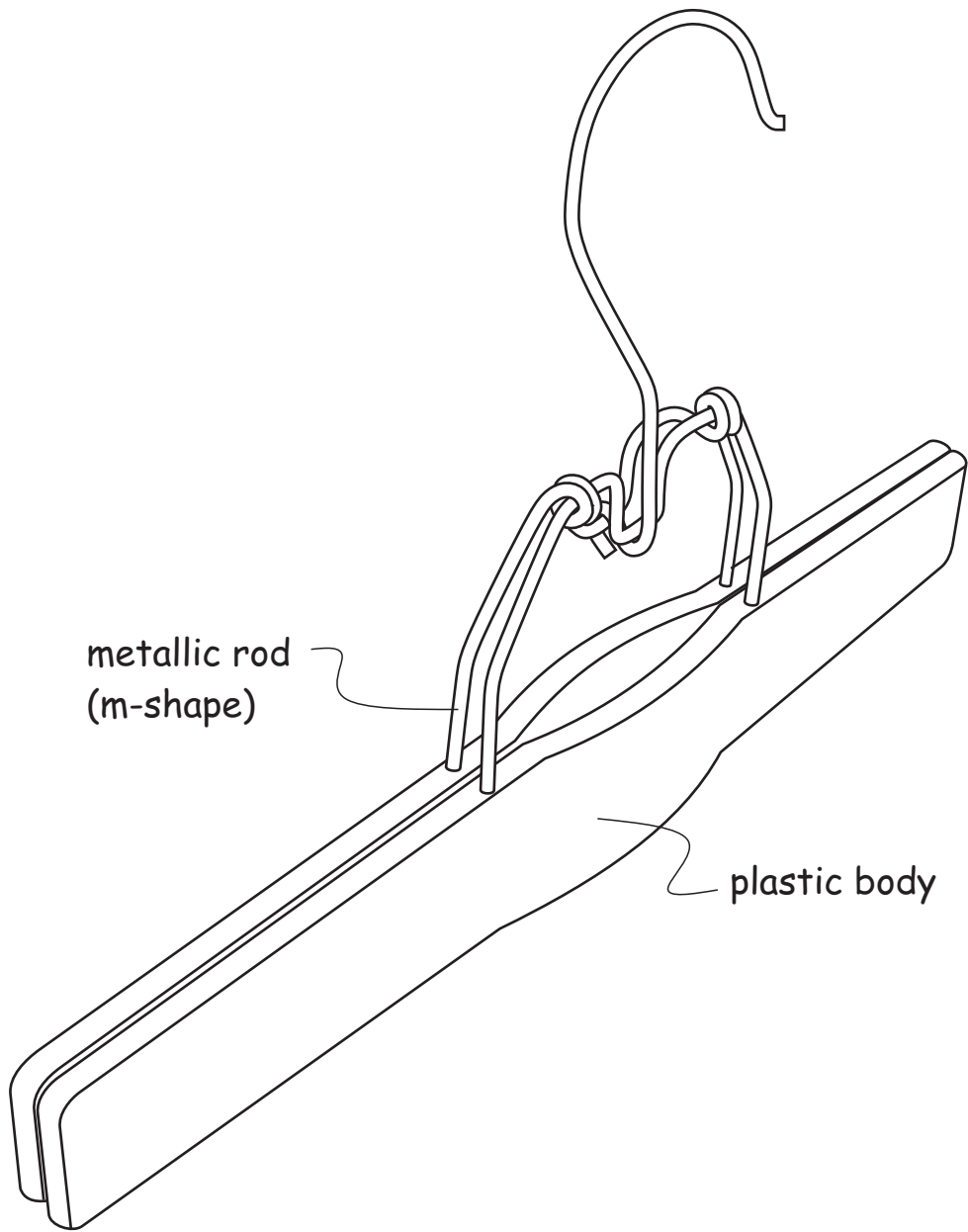


FIGURE 2

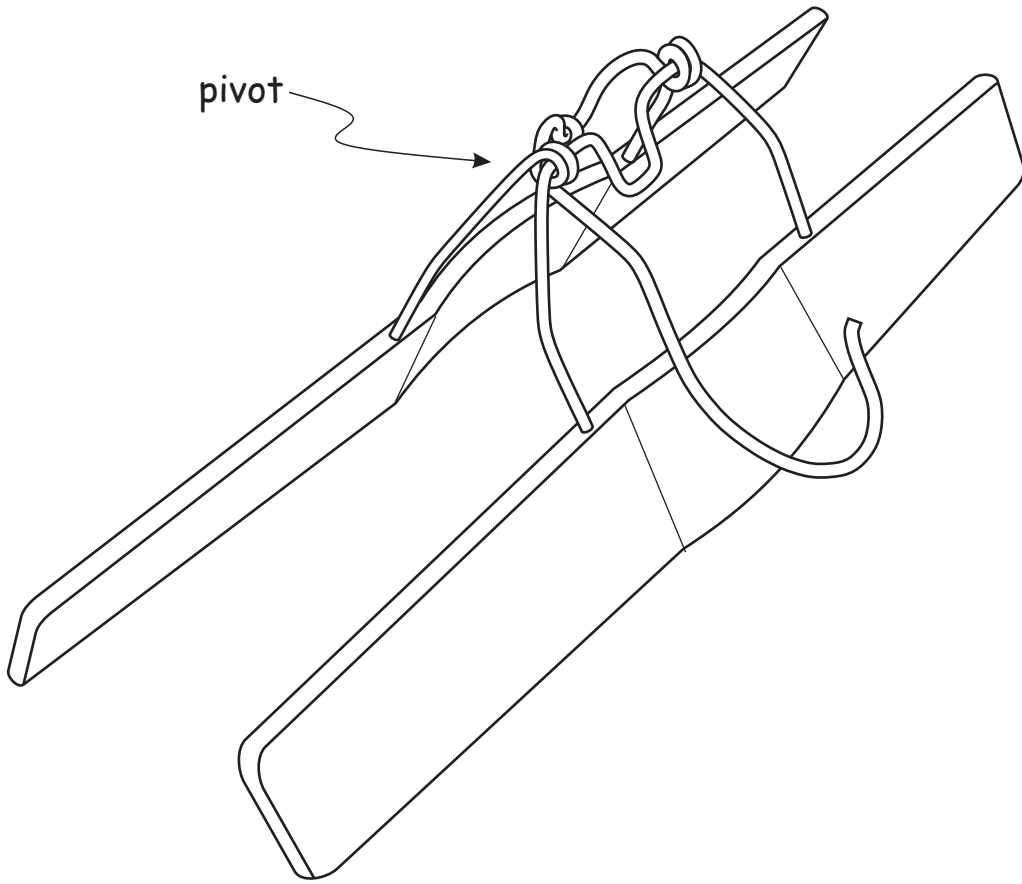


FIGURE 3

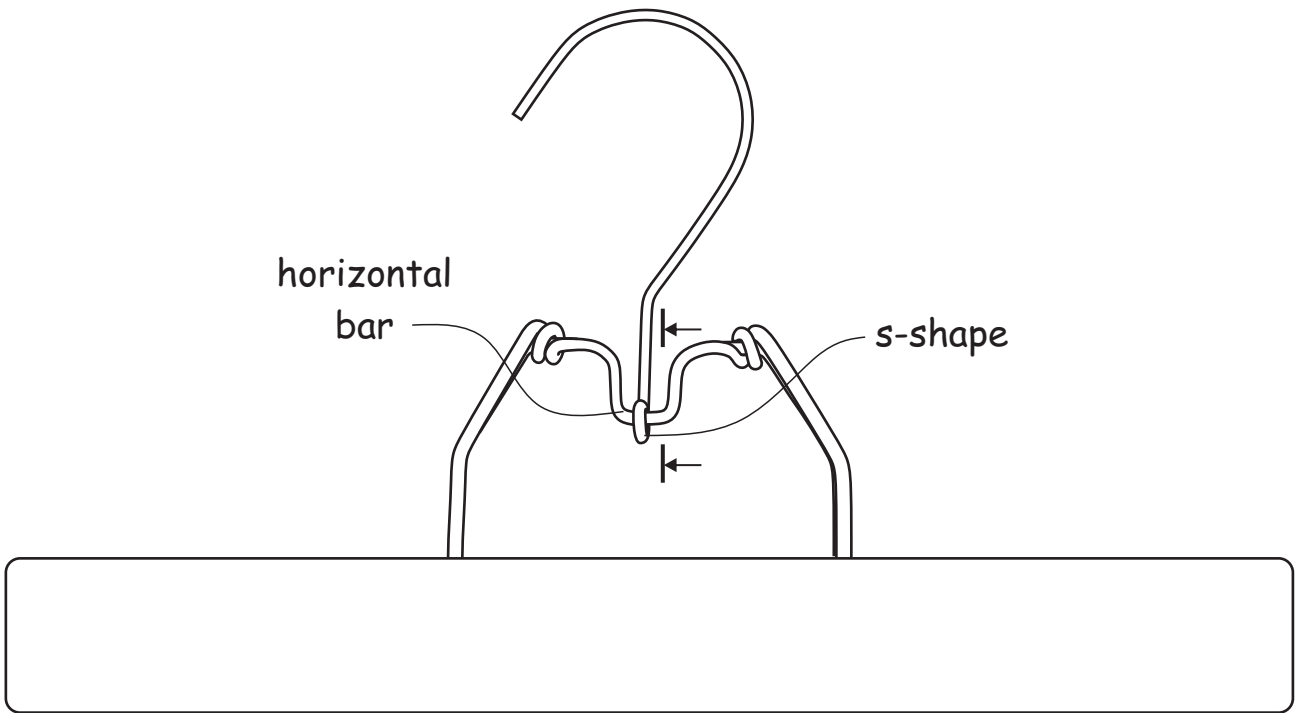


FIGURE 4

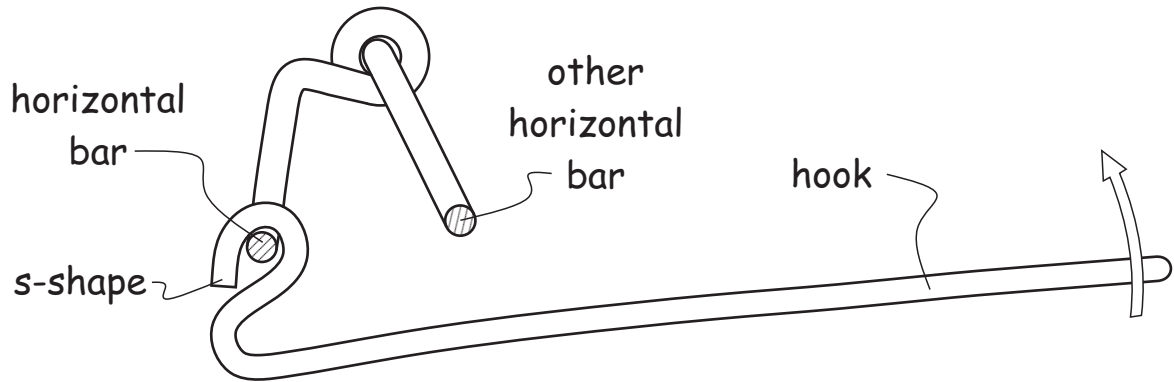


FIGURE 5

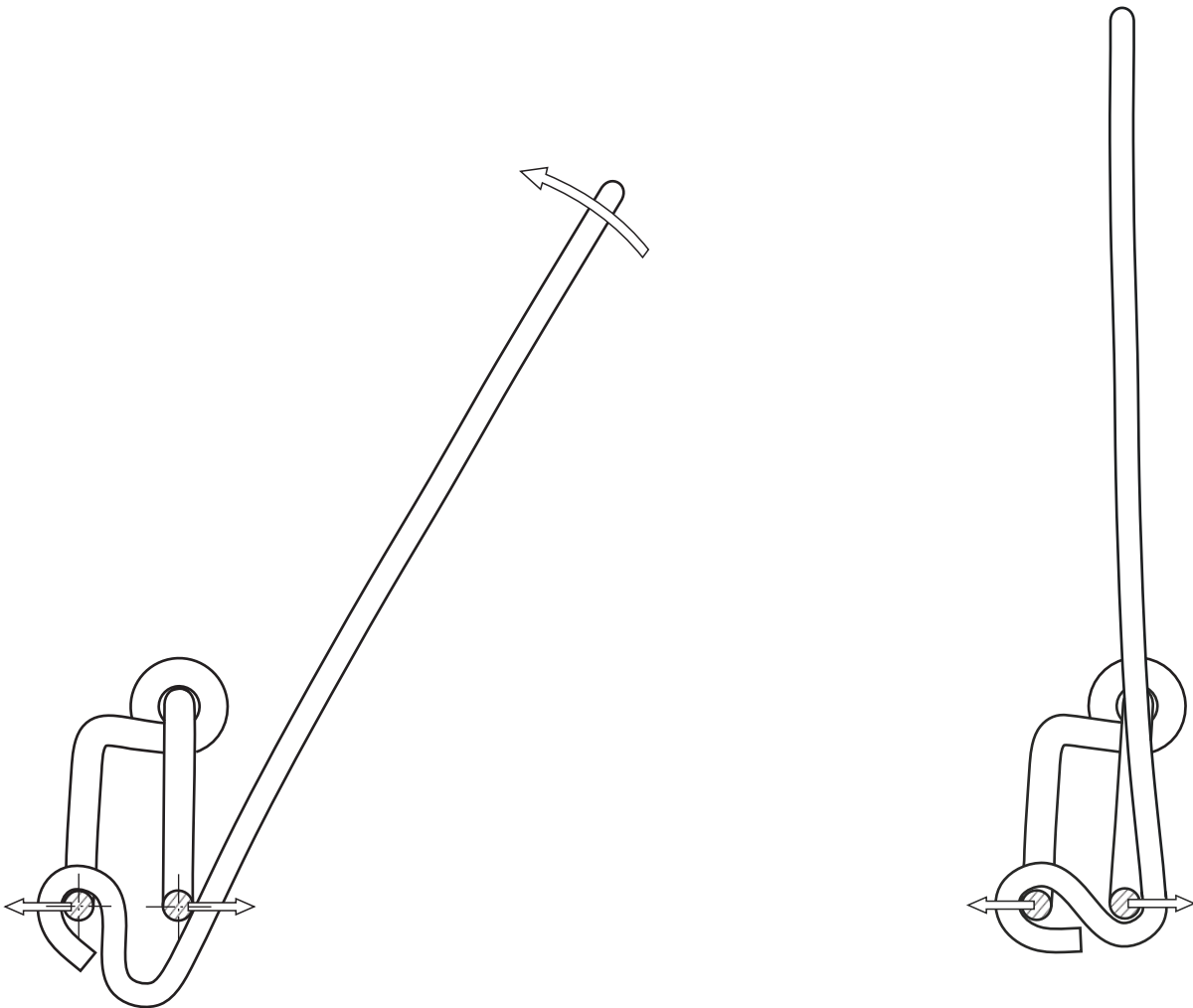
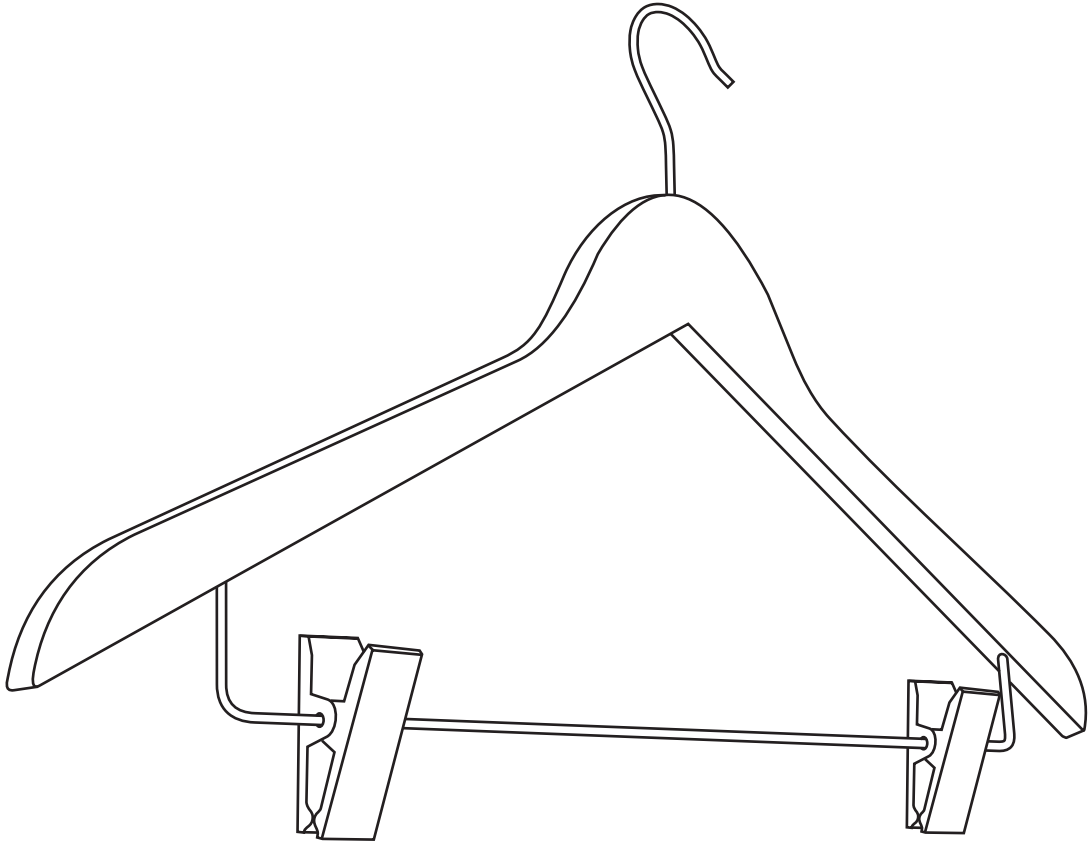


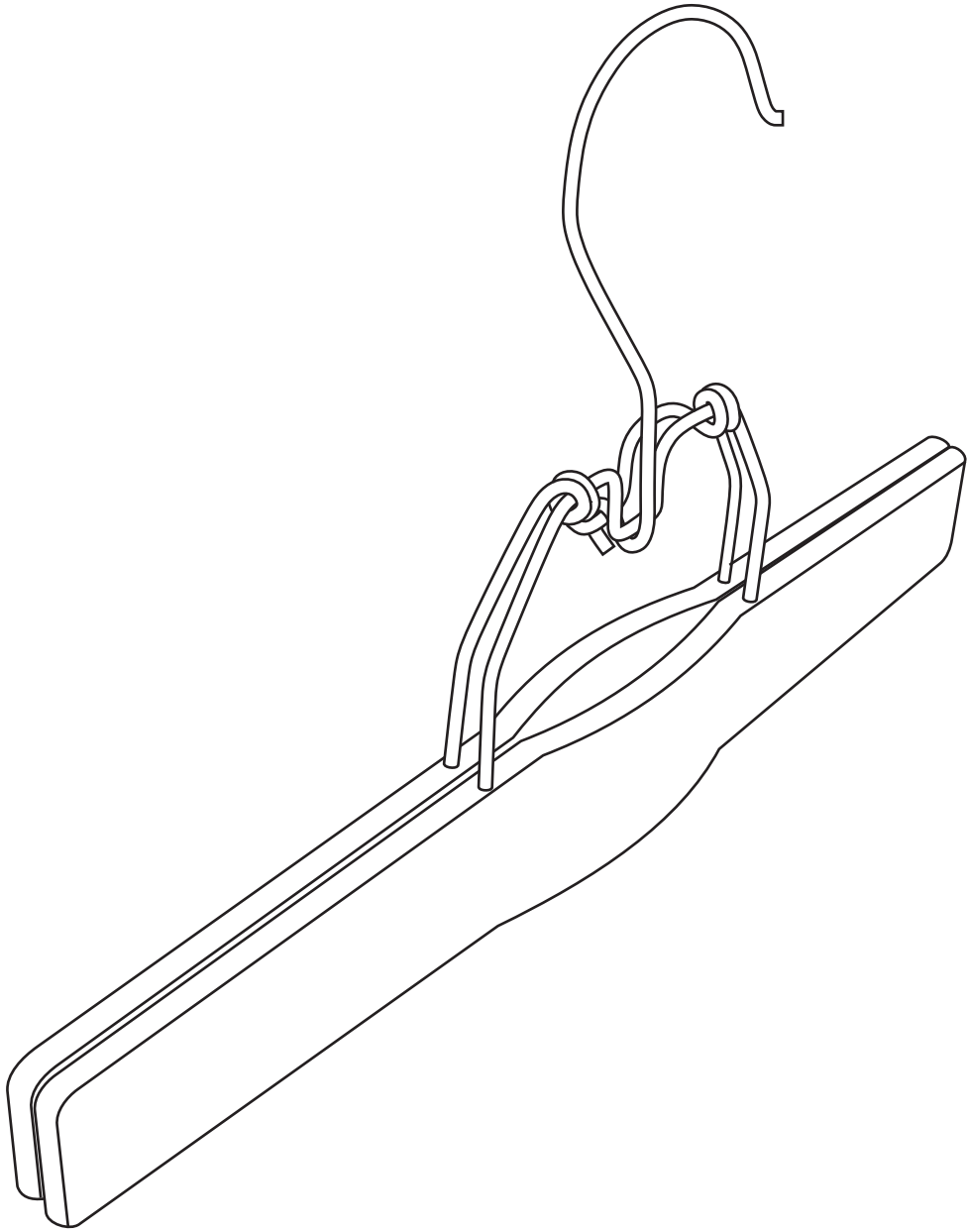
FIGURE 6

FIGURE 7

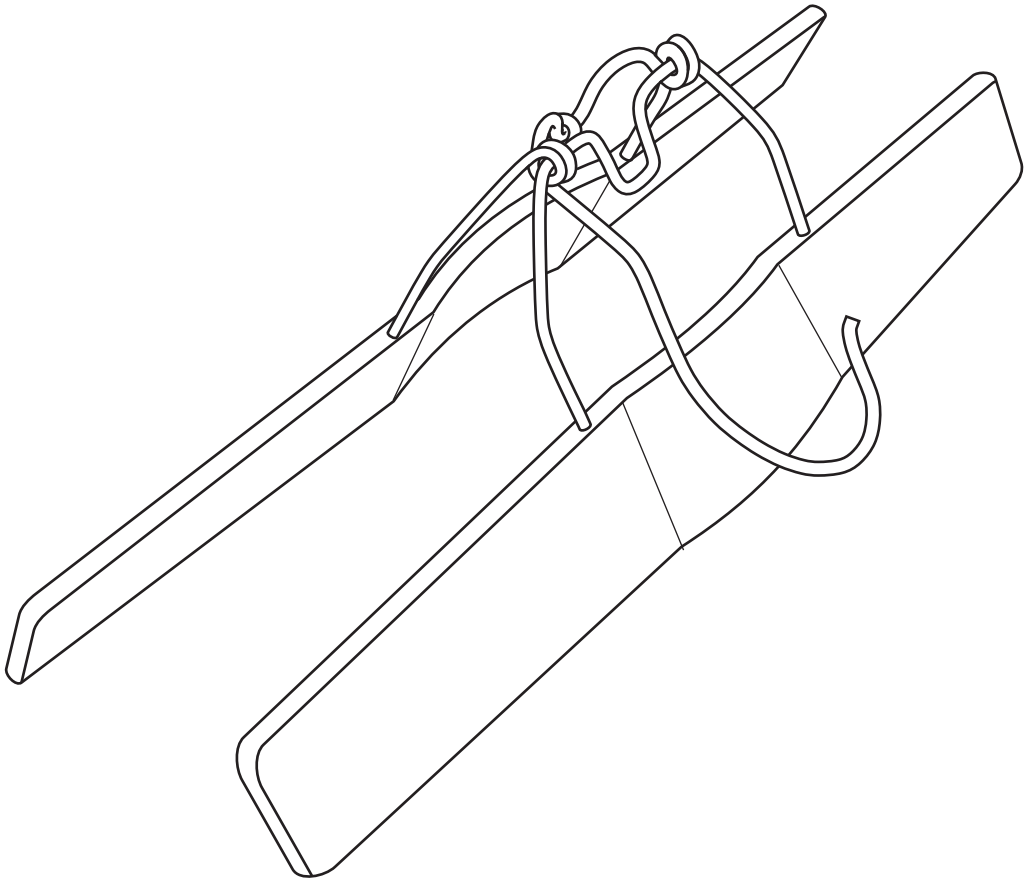
Duplicate of drawings for candidates to use for their answer



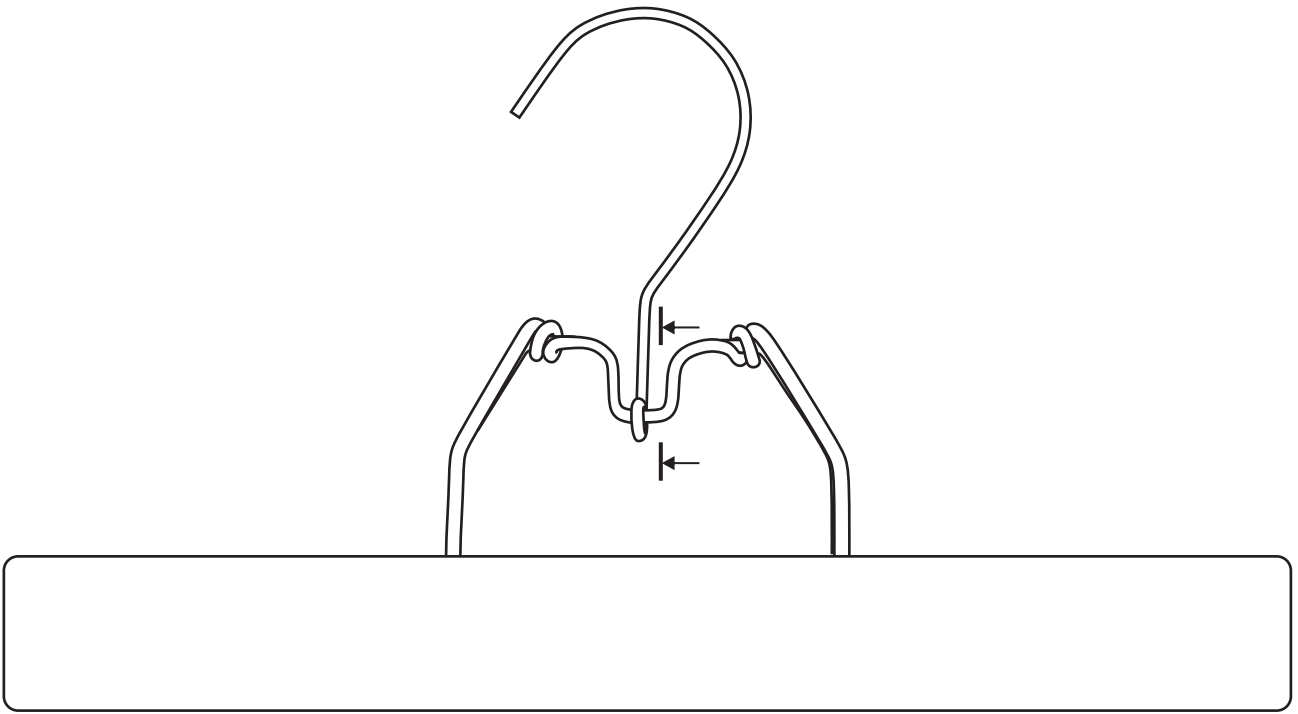
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