

**GCSE**  
**DESIGN & TECHNOLOGY**  
**INDUSTRIAL TECHNOLOGY**  
PAPER 1 (Foundation Tier)  
**FRIDAY 25 MAY 2007**

**F** **1959/1**

Morning

Time: 1 hour



Candidate  
Name

Centre  
Number

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Candidate  
Number

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**INSTRUCTIONS TO CANDIDATES**

- Write your name, Centre number and Candidate number in the boxes above.
- Answer **all** the questions.
- Use blue or black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure you know what you have to do before starting your answer.
- Do **not** write in the bar code.
- Do **not** write outside the box bordering each page.
- **WRITE YOUR ANSWER TO EACH QUESTION IN THE SPACE PROVIDED. ANSWERS WRITTEN ELSEWHERE WILL NOT BE MARKED.**

**INFORMATION FOR CANDIDATES**

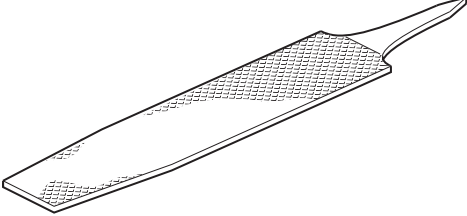
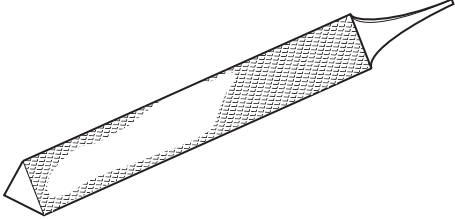
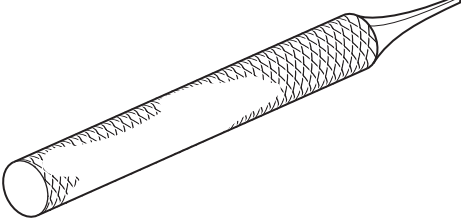
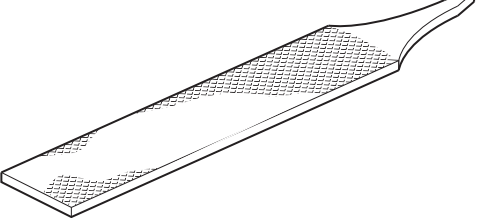
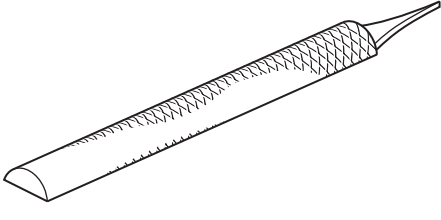
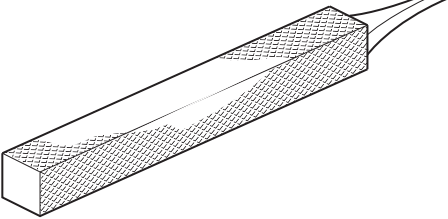
- The number of marks for each question is given in brackets [ ] at the end of each question or part question.
- All dimensions are in millimetres.
- Assume any mechanical system to be 100% efficient.

For Examiner's Use	
1	
2	
3	
4	
5	
Total	

This document consists of **12** printed pages.

- 1 (a) The table below shows files that may be found in a school workshop. **Complete** the table by using the descriptions from the following list. The first one has been done for you.

**Round file, Hand file, Three-square file, Half round file, Warding file, Square file, Knife file.**

	<b>Warding file</b>
	
	
	
	
	

[5]

(b) Fig. 1 shows a mild steel sheet being shaped for a children's toy.

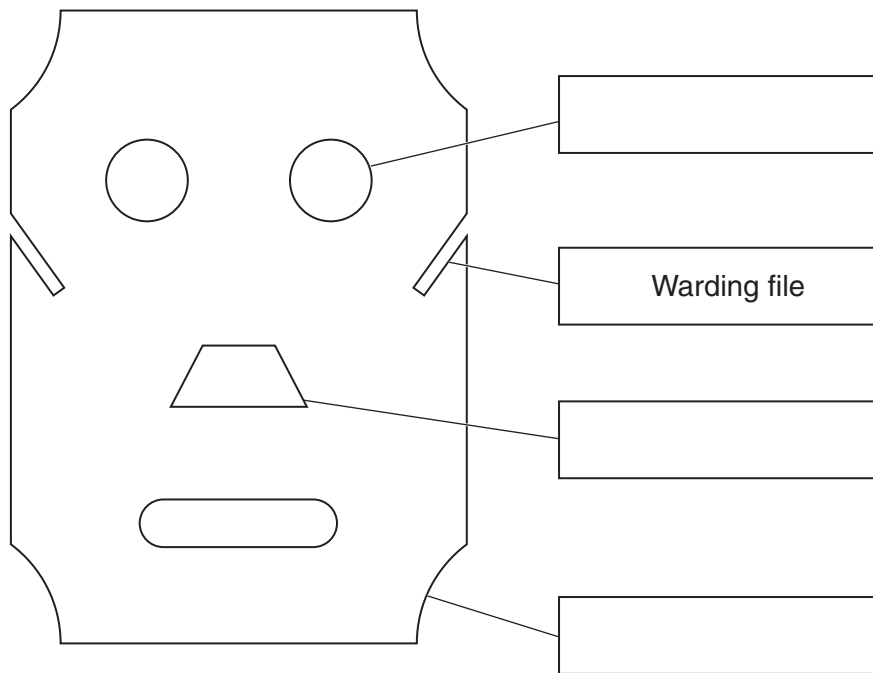


Fig. 1

In the space provided name a suitable file to make each of the shapes. One has been done for you.

[3]

(c) Give **two** pieces of information needed when ordering new files.

1 \_\_\_\_\_ [1]

2 \_\_\_\_\_ [1]

[Total: 10]

2 Fig. 2 shows views of a trolley used to move a stack of chairs.

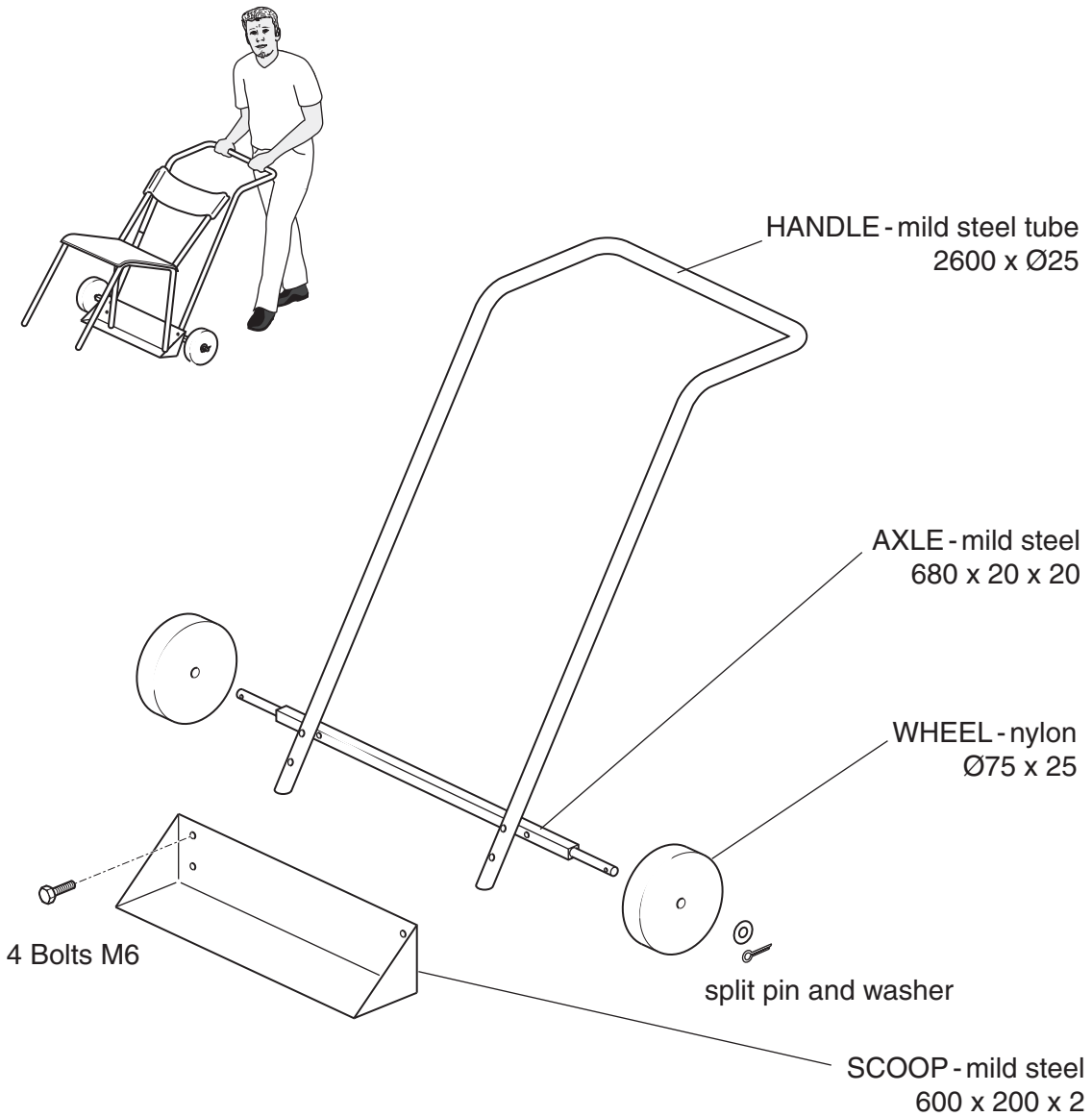


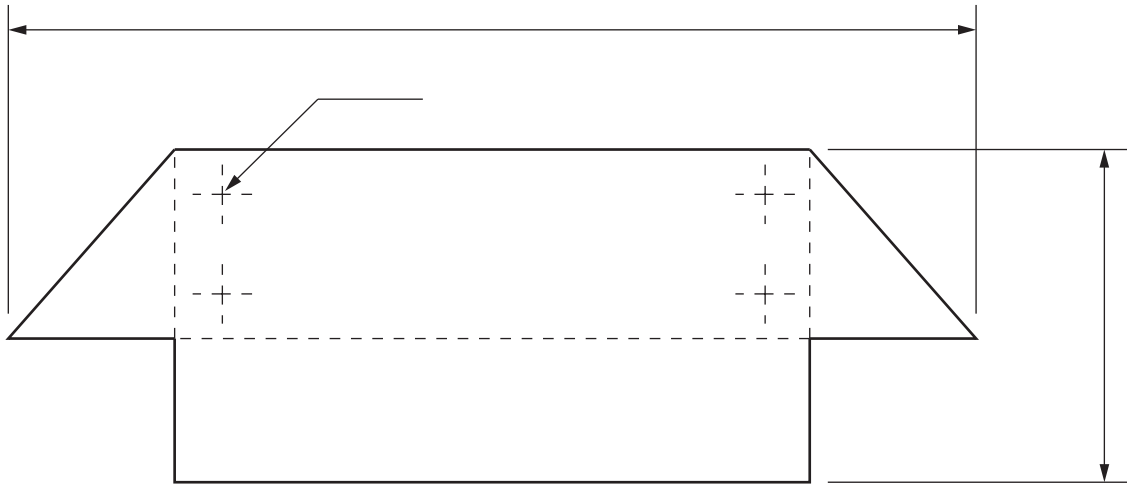
Fig. 2

(a) Use the information in Fig. 2 to complete the cutting list below.

Part Name	Length	Width	Thickness	Material	Number Off
Handle		Ø25		Mild steel tube	1
	680	20	20	Mild steel	1
Scoop	600	200			1
Wheels		Ø75	25		2

[5]

(b) Fig. 3 shows an incomplete net of the scoop.

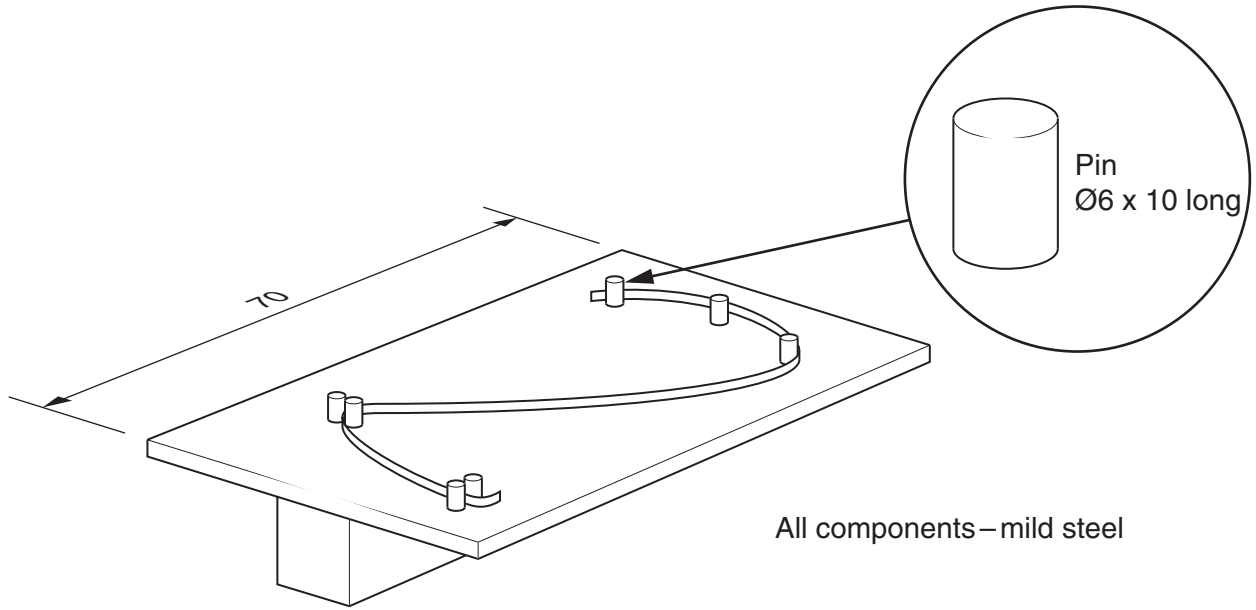


**Fig. 3**

- (i) Using the information in Fig. 2 add to the drawing of the net the following dimensions to British Standards:
- the length of the net;
  - the width of the net;
  - the diameter of one hole. [4]
- (ii) Complete the net in Fig. 3 by adding tabs to allow the shape to be riveted together. [1]

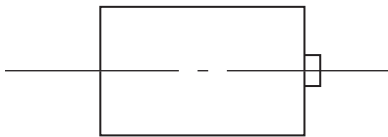
[Total: 10]

3 Fig. 4 shows a jig used for bending wire in the school workshop.

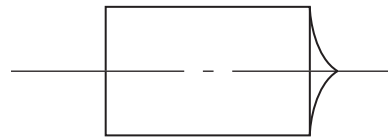


**Fig. 4**

(a) Fig. 5 shows details of the first two pins turned on the lathe by a student.



**Fig. 5a**



**Fig. 5b**

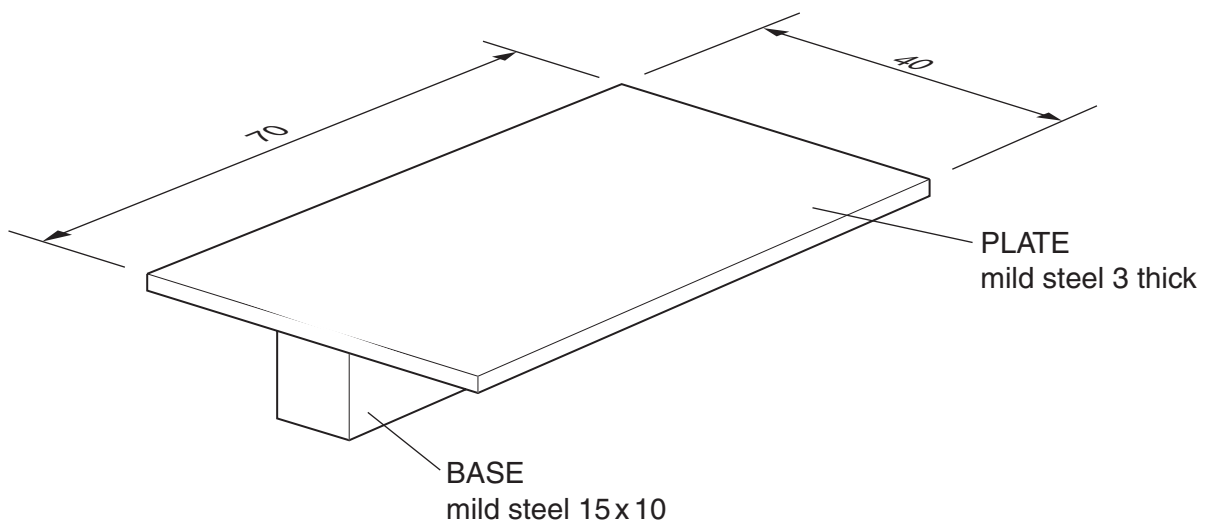
(i) Give the reason for the fault shown in Fig. 5a.

\_\_\_\_\_ [1]

(ii) Give the reason for the fault shown in Fig. 5b.

\_\_\_\_\_ [1]

(b) Fig. 6 shows the outline of the body of the jig. It is designed to be held in an engineers' vice.



**Fig. 6**

- (i) Use sketches and notes to show how the plate and the base could be joined by **brazing**. Show all manufacturing detail.

[4]

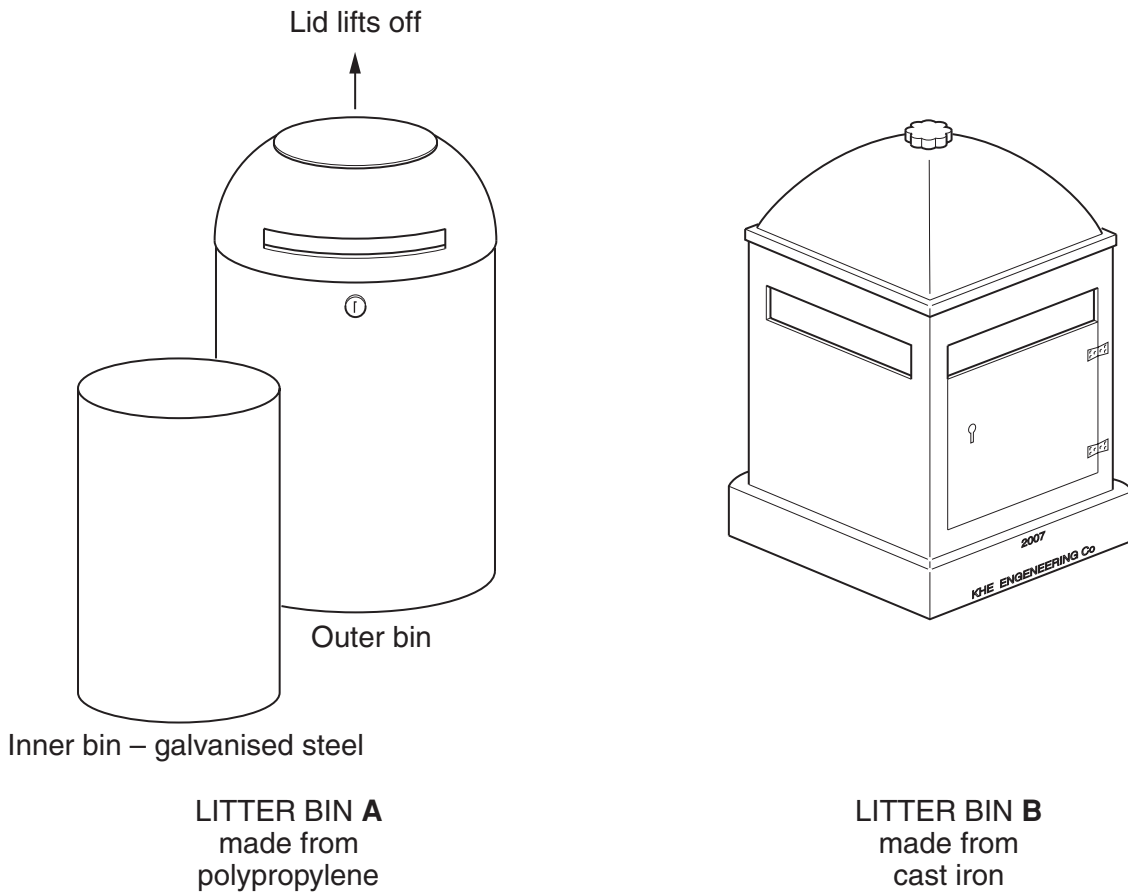
- (ii) Use sketches and notes to show how the plate and the base could be joined by **riveting**. Show all manufacturing detail.

[4]

[Total: 10]

**[Turn over**

4 Fig. 7 shows views of two litter bins.



**Fig. 7**

(a) (i) State a suitable method of manufacture for litter bin **A**.

\_\_\_\_\_ [1]

(ii) State a suitable method of manufacture for litter bin **B**.

\_\_\_\_\_ [1]

(b) State a suitable finish for litter bin **B**.

\_\_\_\_\_ [1]

(c) Give **one** benefit to the manufacturer when producing litter bin **A**.

\_\_\_\_\_ [1]

(d) (i) Give **one** advantage in use of litter bin **A**.

\_\_\_\_\_ [1]

(ii) Give **one** advantage in use of litter bin **B**.

\_\_\_\_\_ [1]



- (e) When emptying **litter bin A**, the inner bin was difficult to lift out. Use sketches and notes to show modifications to the inner bin to make it easier to lift out. Include details of materials and construction.

[4]

[Total: 10]

[Turn over

5 Fig. 8 shows a clamp and bracket machined from aluminium alloy.

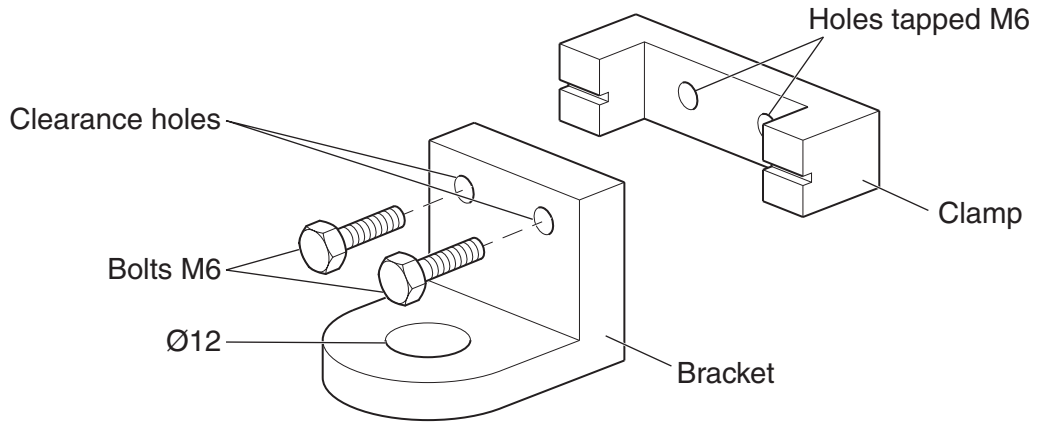


Fig. 8

Fig. 9 shows diagrams at each stage of manufacture. They **are not** shown in the correct order.

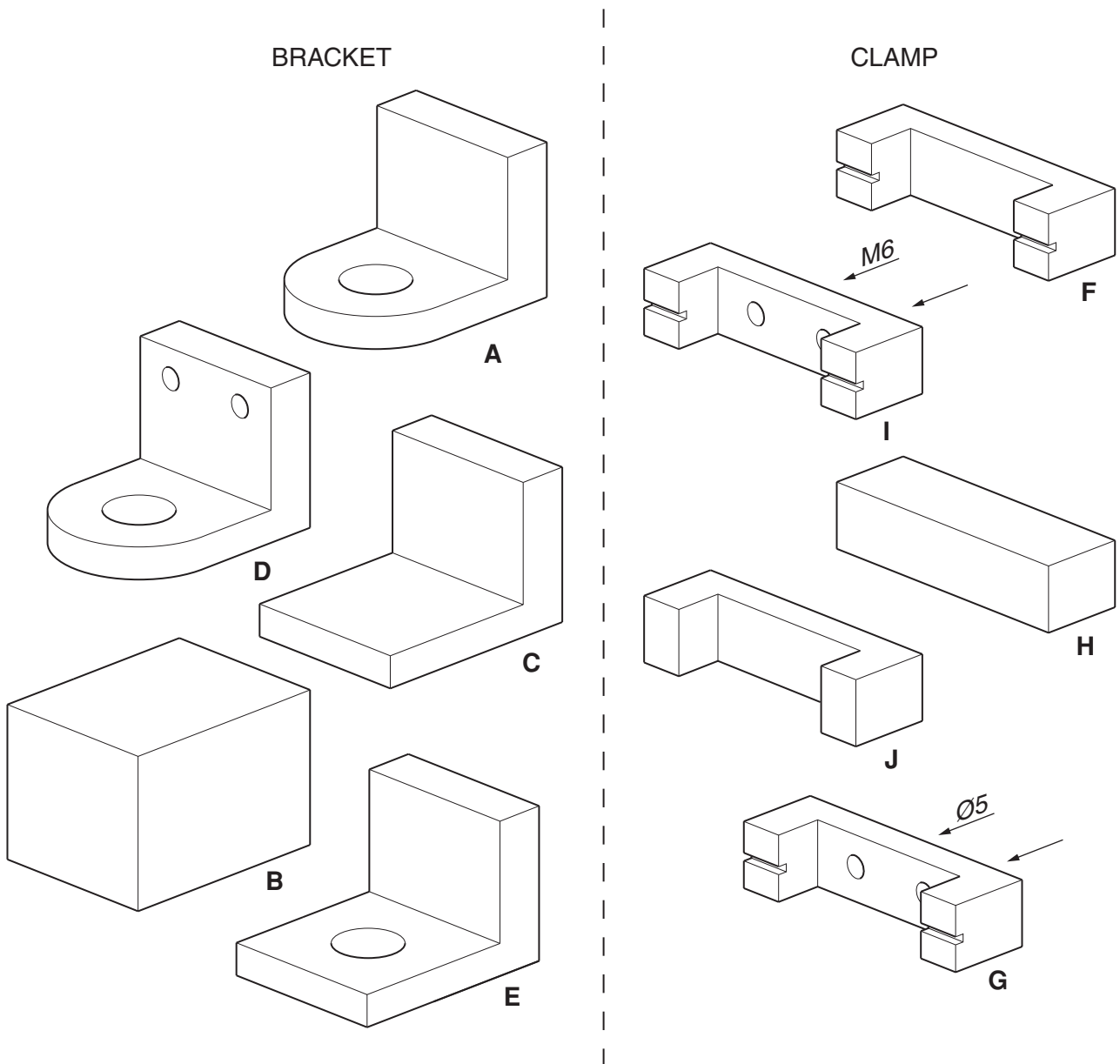


Fig. 9

Fig. 10 shows a diagram for the sequence of operations.

(a) Complete the sequence diagram by placing the stages in the correct order.

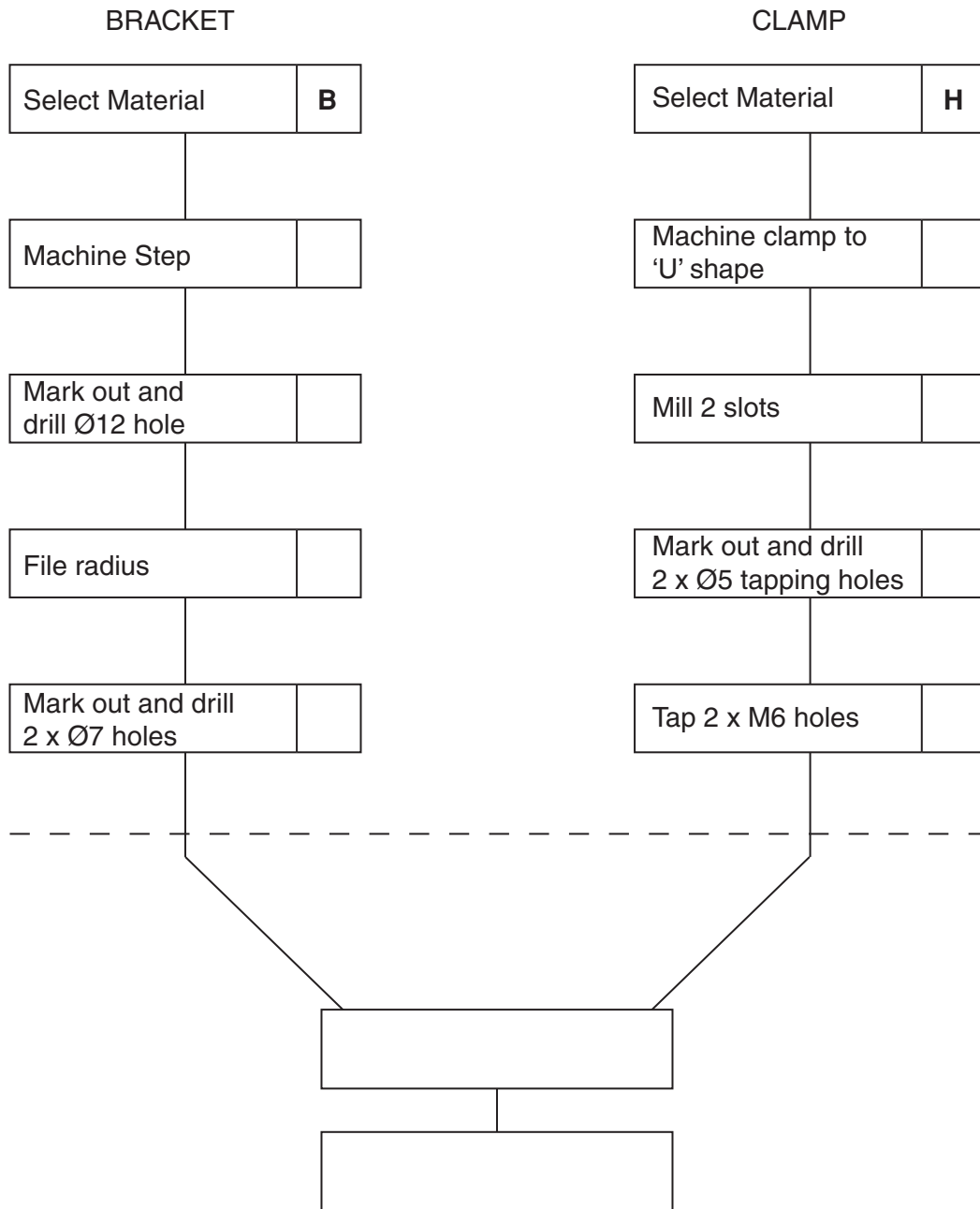


Fig. 10

[8]

(b) Complete the sequence diagram by adding **two** further stages.

[2]

[Total: 10]

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