



Technical analysis and diagramming exercises

2nd year of the first cycle



Name: _____

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in collaboration with the

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Rules of diagramming

Complete the sentences using the words below:

proportion - elements - colour - links - view - simple lines - parts - symbols - forces - movement

- 1- Choosing the best _____ to represent the object.
- 2- Represent the object by _____.
- 3- Name the various _____ of the object.
- 4- Use _____ to represent the operating principles.
- 5- Represent the _____ using arrows.
- 6- Represent the _____ and the guidance.
- 7- Use _____ to represent the various parts of the object.
- 8- Represent the _____ of the parts using appropriate symbols.
- 9- Indicate the critical _____.
- 10- Retain a certain _____ between the various parts.

Technological analysis of the graduated cylinder

Global function of the object: _____



Analysis of the object

Observe the object and answer the following questions:

1- What are the various parts of the object? What is their use?

2- What are the various materials used in the object?

3- What is the purpose of the gradation printed on the object?

4- What are the characteristics of the link between the safety ring and the graduated glass tube? _____

Complete the principles diagram of the graduated cylinder

1- Carry out the principles diagram of the graduated cylinder.

Technological analysis of the clothesline spacer

Global function of the object: _____



Analysis of the object

Observe the object and answer the following questions:

1- Is there a simple machine as the basis of this object?

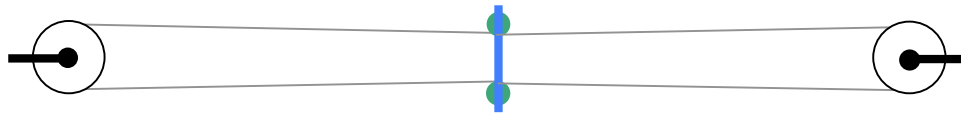
2- Of what material is this object made? Specify an advantage to using this material in the make up of the object.

3- What is the role of the deflectors under the pulleys?

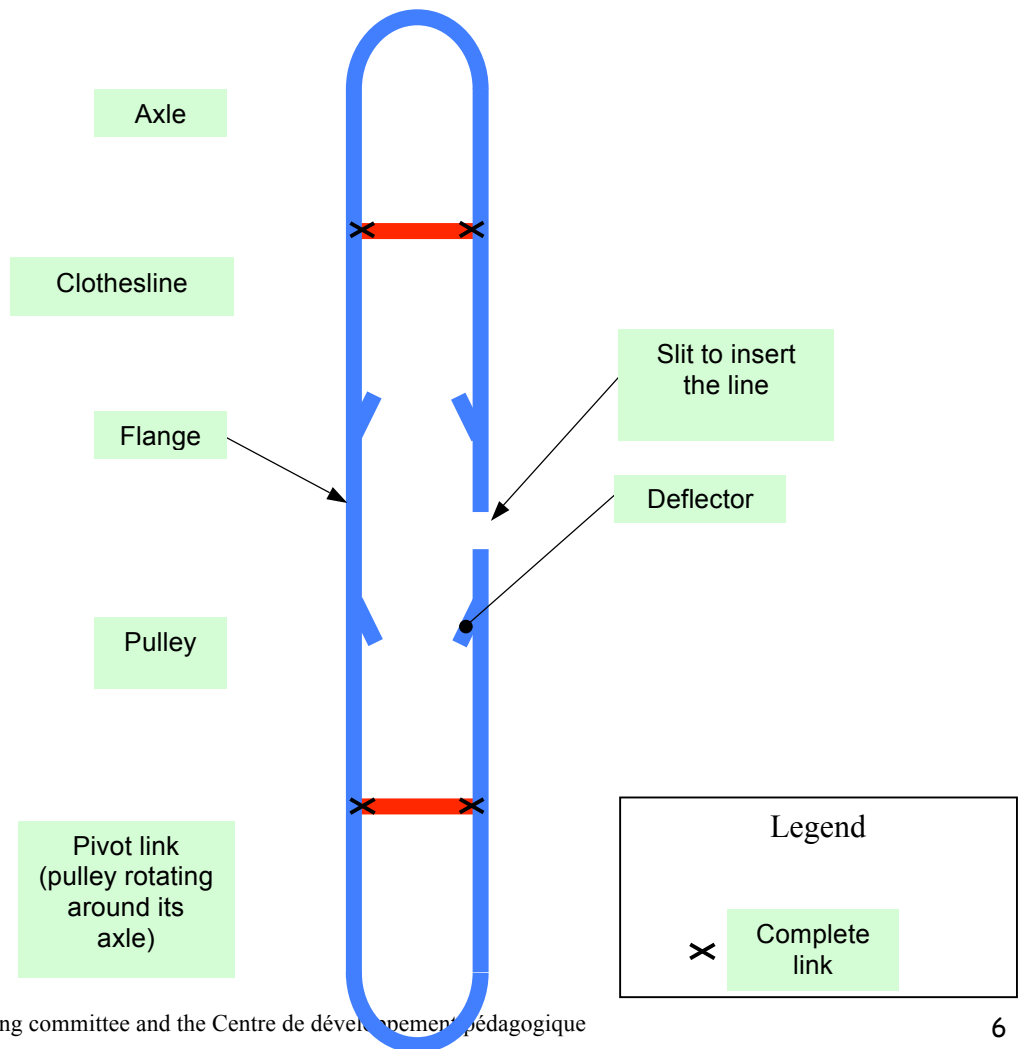
Complete the principles diagram of the clothesline spacer

1- Draw the pulleys.

2- Connect the parts of the object to the elements on the diagram.



SITUATION DIAGRAM FOR THE SPACER



Technological analysis of the eyelash curler

Global function of the object: _____



Analysis of the object

Observe the object and answer the following questions:

1- Is there a simple machine as a basis for this object? Specify which one.

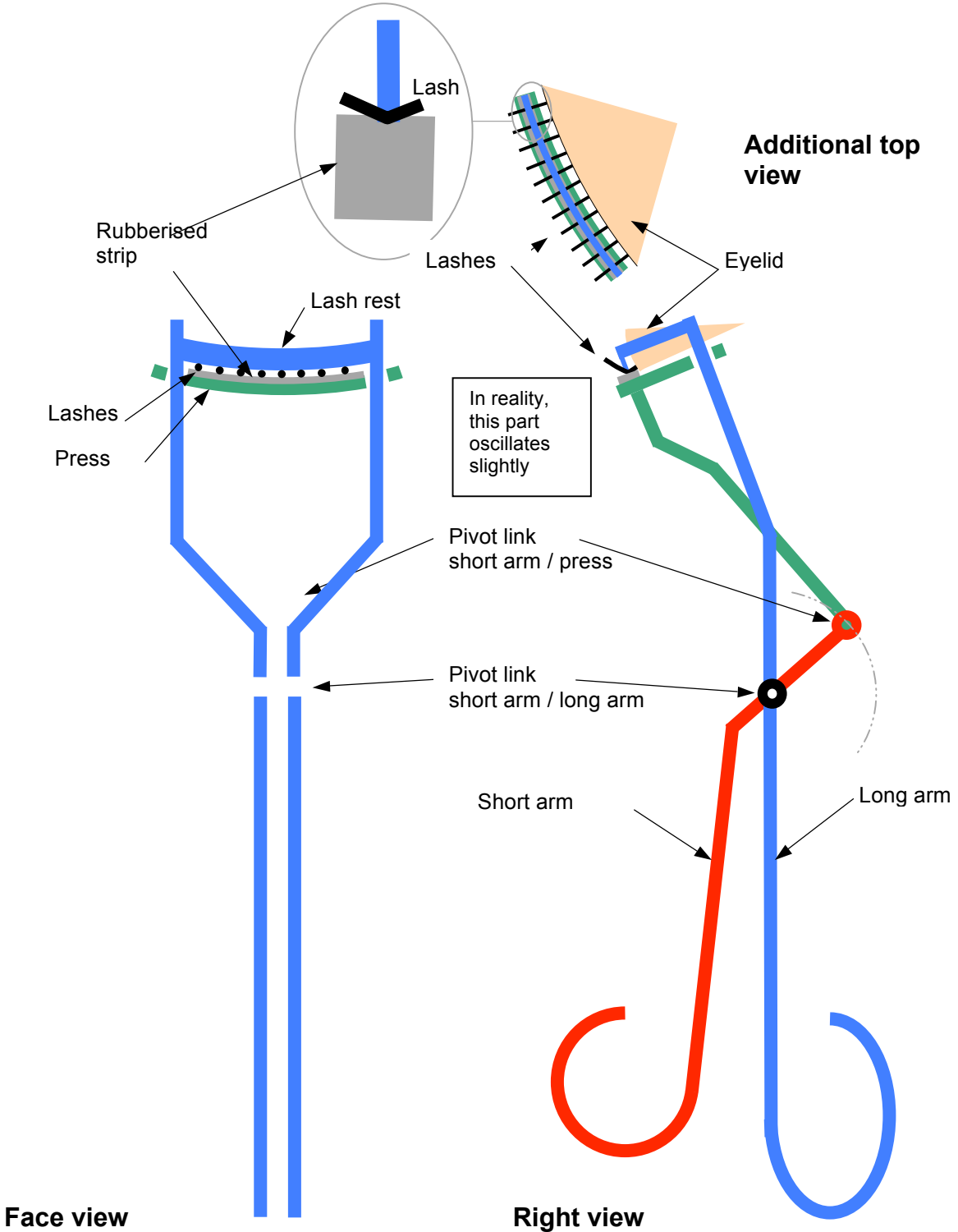
2- What are the characteristics of the link between the short and long arms?

3- What are the characteristics of the "short arm - press" pivot link?

4- What is the role of the rubberised strip? _____

Complete the principles diagram of the eyelash curler

1- Complete the diagram using a face view.



Technological analysis of the garlic press

Global function of the object: _____



Analysis of the object

Observe the object and answer the following questions:

1- Is there a simple machine as a basis for this object? Specify which one.

2- What are the characteristics of the link between the two levers?

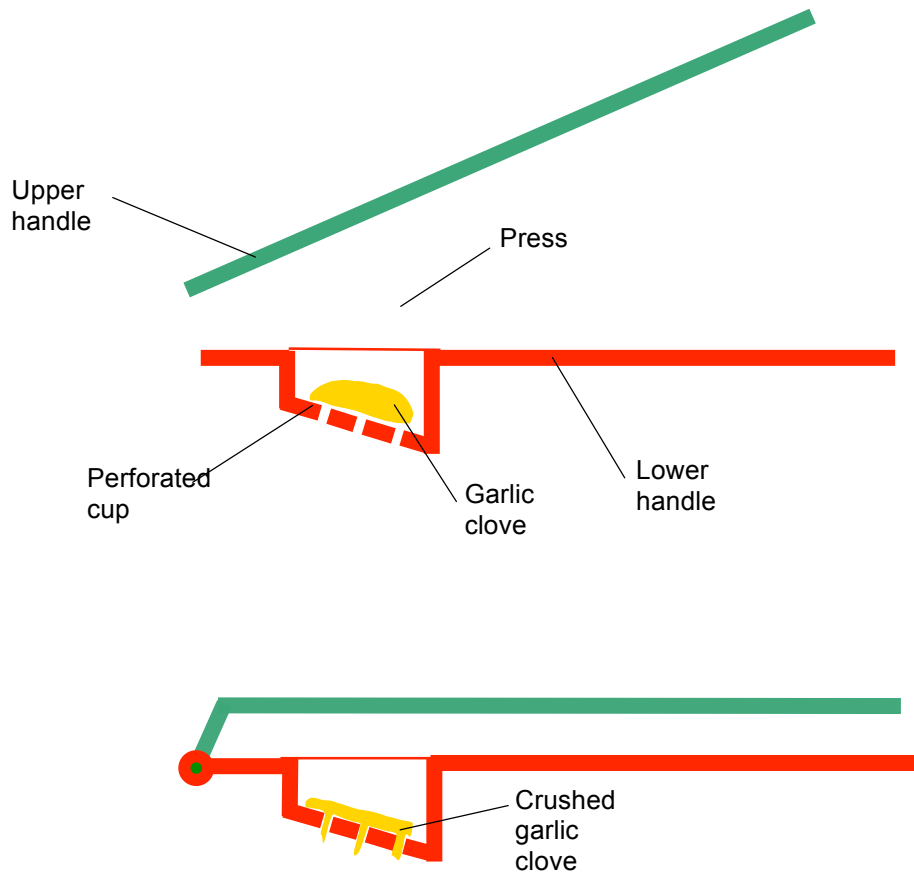
3- Where is the force of action applied in this object?

4- Where is the resistance force in this object?

Complete the principles diagram of the garlic press

1- Draw the press.

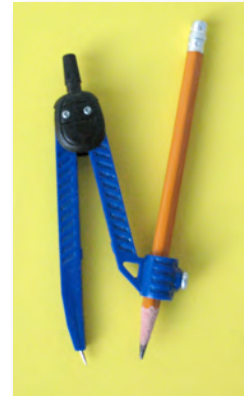
2- Draw the rotation guidance for the handles.



Garlic press with upper handle folded down

Technological analysis of the drafting compass

Global function of the object: _____



Analysis of the object

Observe the object and answer the following questions:

1- What method is used to keep the pencil in place while tracing?

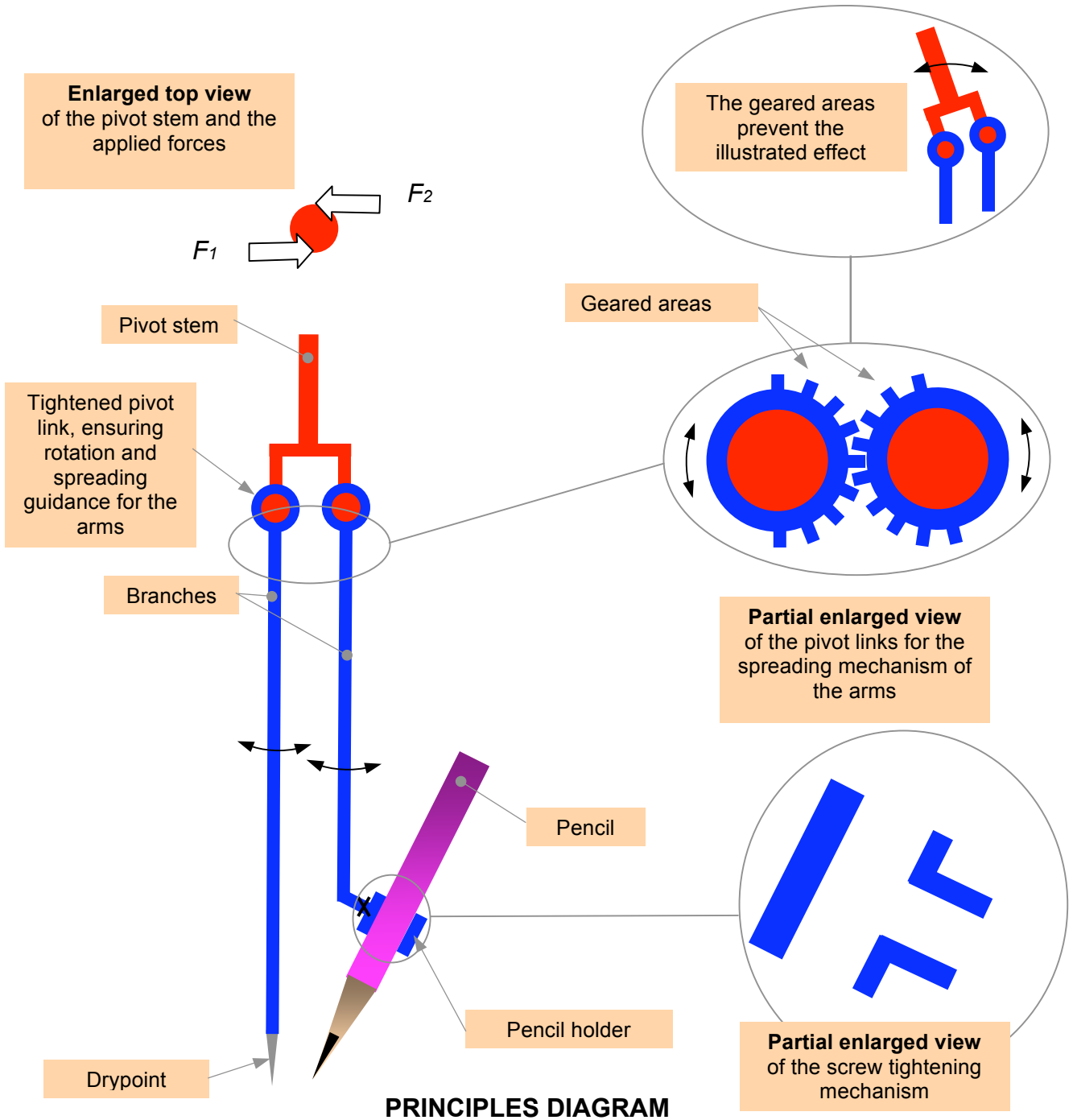
2- How is the pencil affixed to the compass?

3- What type of movement is associated to the screw?

4- What is the use of the drypoint?

Complete the principles diagram of the drafting compass

1- Complete the enlarged view of the tightening mechanism for the pencil.



Technological analysis of the garden cutters

Global function of the object: _____



Analysis of the object

Observe the object and answer the following questions:

1- What type of link is there between the handle and the blade?

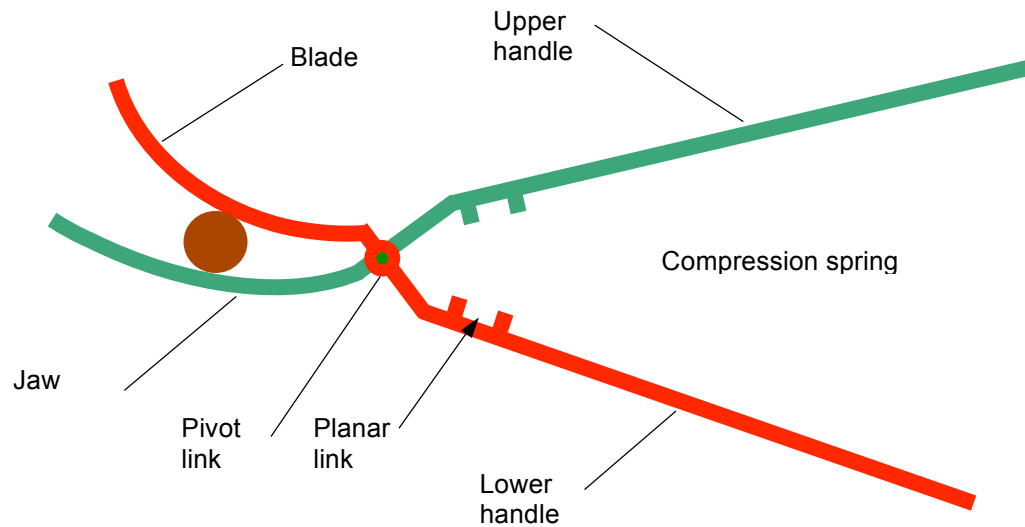
2- Is there a simple machine in the construction of this object? If so, specify which.

3- What is the use of the compression spring?

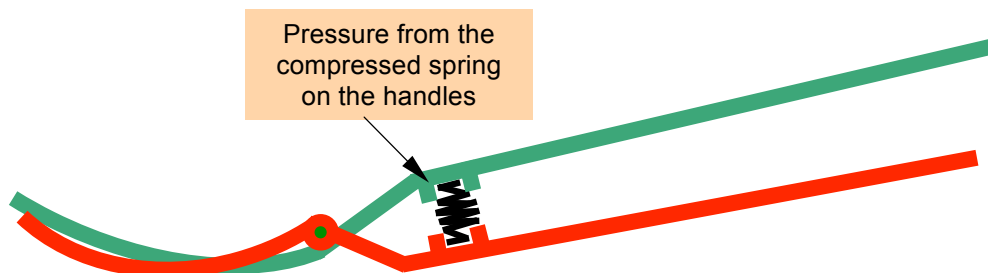
4- What type of link is there between the two blades?

Complete the principles diagram of the garden cutters

1- Complete the principles diagram.



Garden cutters in cutting position



Garden cutters closed in re-opening or unblocking position (see following diagrams)

PRINCIPLES DIAGRAMS

Technological analysis of the pressure clamp

Global function of the object: _____



Analysis of the object

Observe the object and answer the following questions:

1- What type of link is there between the two parts of the pressure clamp?

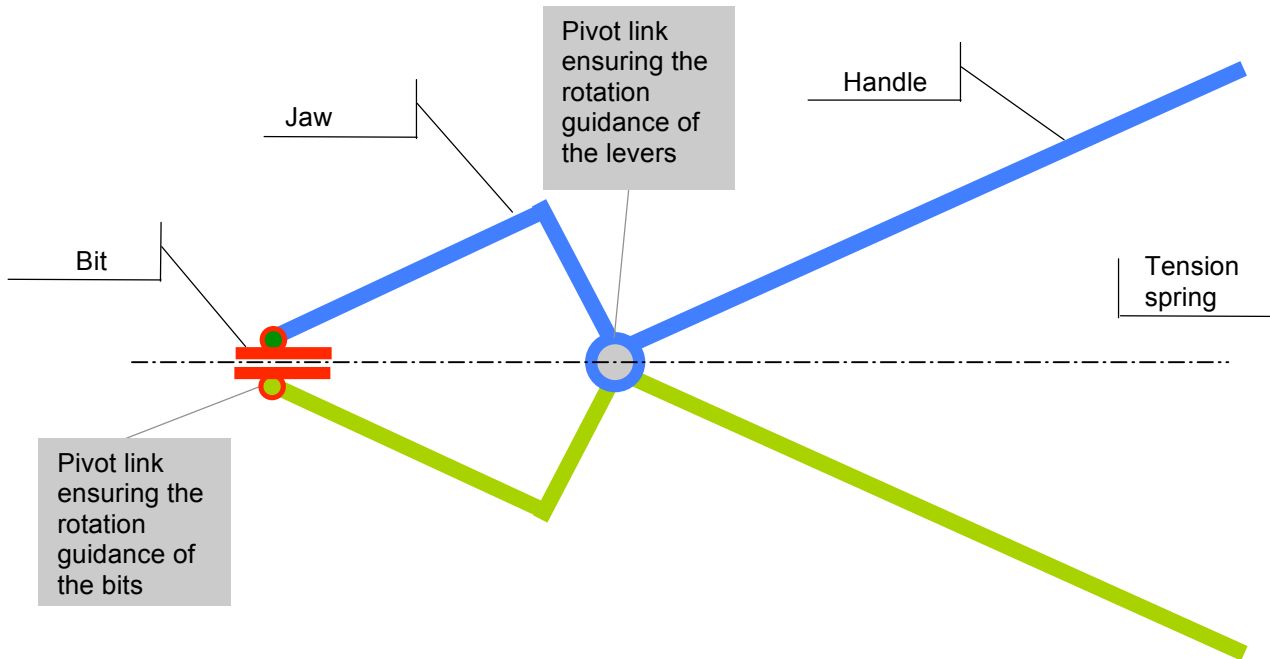
2- Is there a simple machine in the construction of this object? If so, which one?

3- What type of link is there between the bits and the jaws?

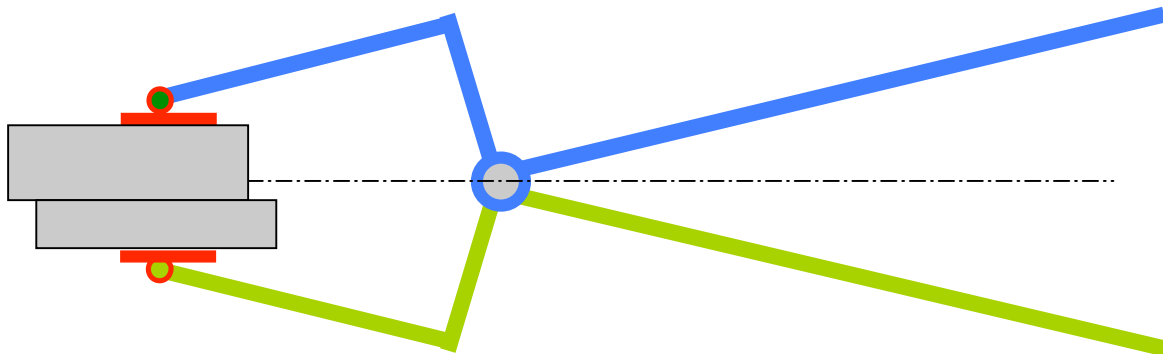
4- What is the role of the tension spring in this object?

Complete the principles diagram of the pressure clamp

1- Complete the principles diagram by drawing the torsion spring.



Clamp in **CLOSED** position (at rest)



Clamp in **OPEN** position (clamping)

PRINCIPLES DIAGRAM

Technological analysis of the pepper mill

Global function of the object: _____



Analysis of the object

Observe the object and answer the following questions:

1- What is the role of the compression spring in this object?

2- Why is the reservoir transparent?

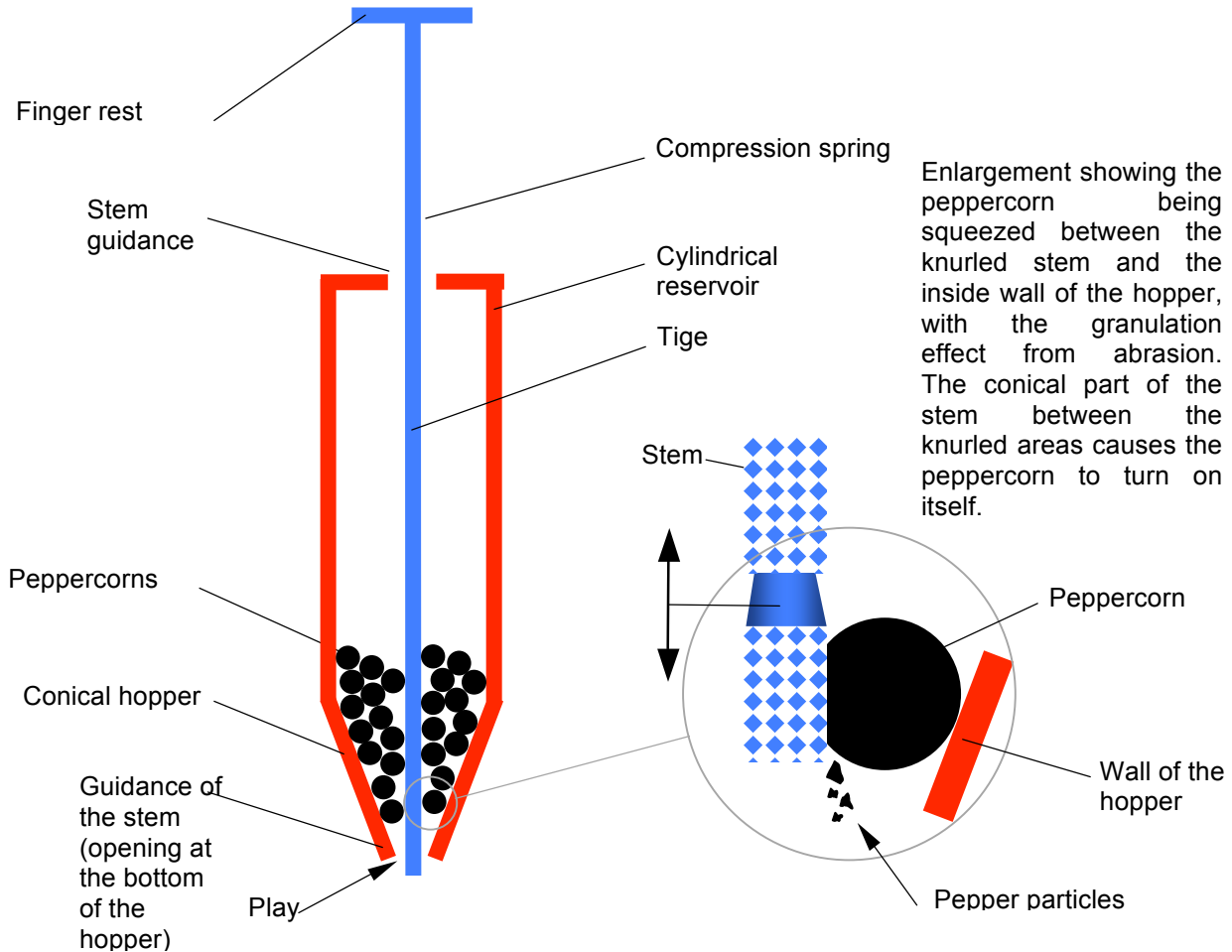
3- Why is the stem knurled?

4- What type of movement does the stem make when the object is functioning?

Complete the principles diagram of the pepper mill

1- Draw the compression spring using the appropriate symbol.

2- Draw the guidance of the stem.



Technological analysis of the nail clipper

Global function of the object: _____



Analysis of the object

Observe the object and answer the following questions:

1- What levers are at the basis of this object? Where are they in the object?

2- How many parts make up this object? What are these parts?

3- Why was this object designed to be closed?

Complete the principles diagram of the nail clipper

- 1- Complete the principles diagram by drawing the crooked stem.
- 2- Carry out the principles diagram in the closed position.

