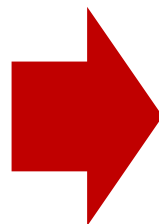


# Case Summary

## ● Pony

A patentee of an invention regarding a roll paper (**“Invention”**)

- Patent number: No. 20231017
- Filing date:
  - April 1, 2005 (in Country A)
  - March 14, 2006 (in Country B)
- Registration date:
  - March 31, 2008 (both Countries)



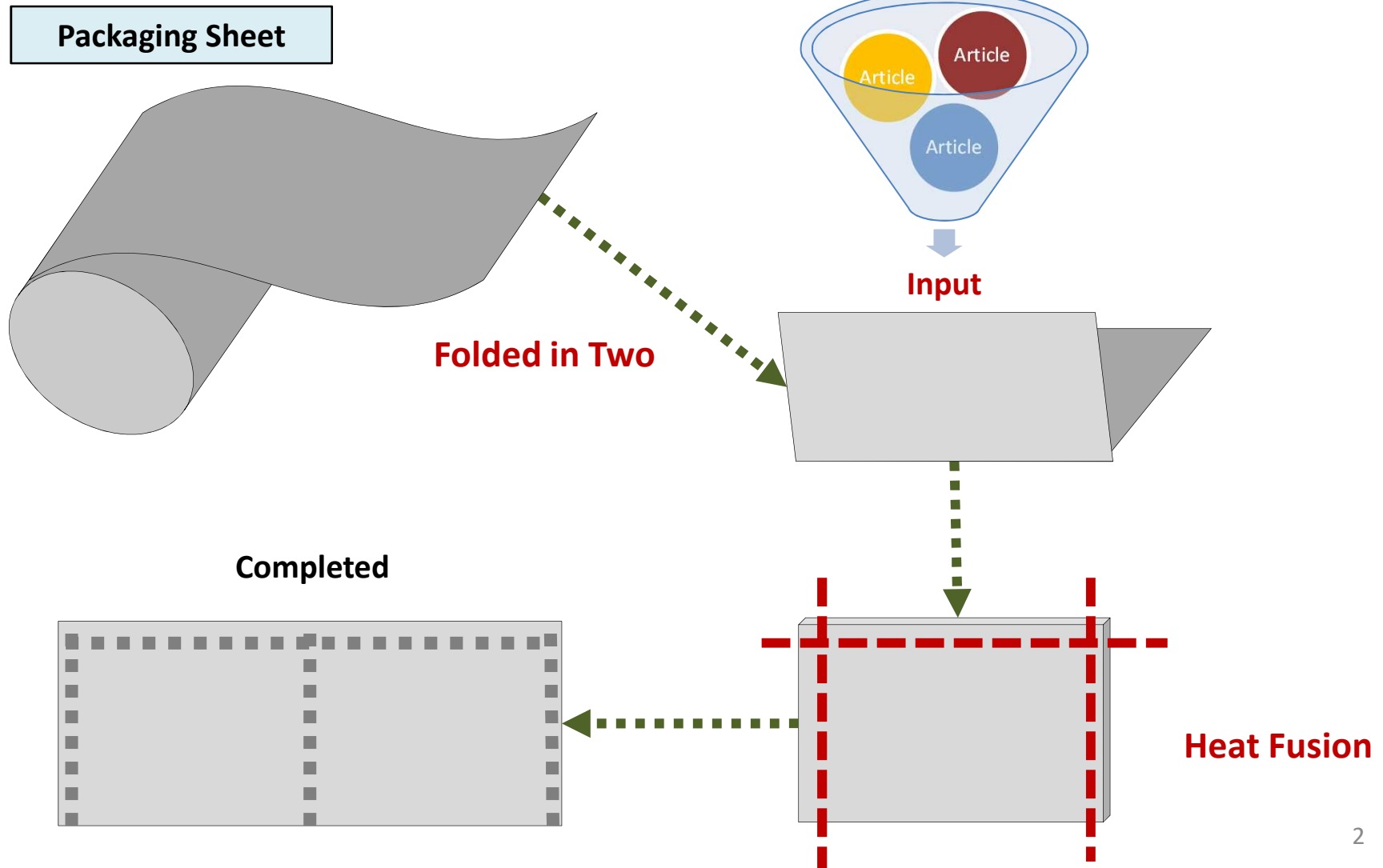
## ● Donkey

Since October 11, 2022, Donkey has been importing roll papers (**“Defendant’s Product”**) from Turtle, a corporation in Country B, and has been selling them in country A.

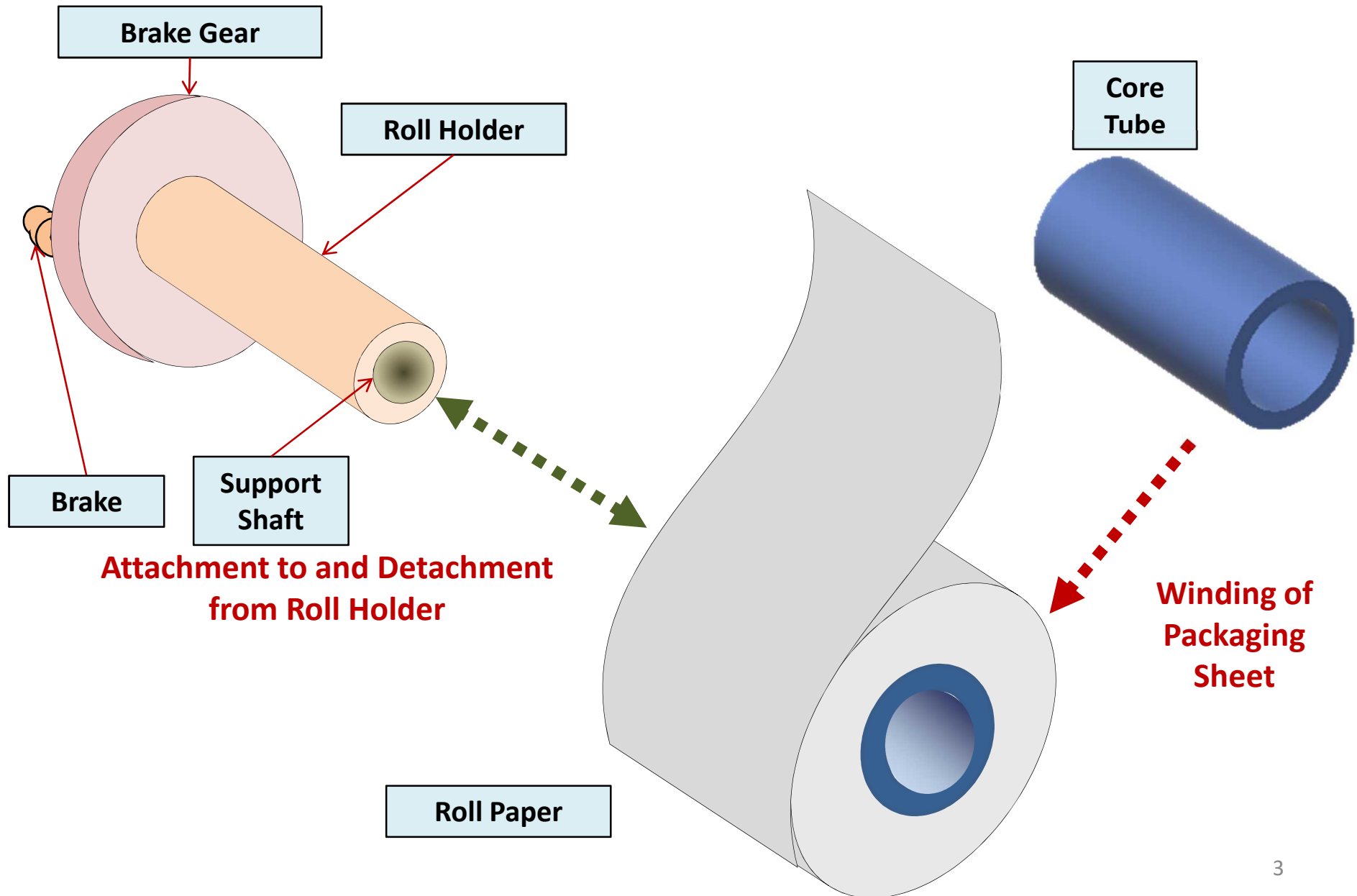
**Pony filed a patent infringement lawsuit against Donkey on April 1, 2023.**

- Seeking injunction against the importation and sale of the Defendant’s Product.

# Article Packaging Device



# Article Packaging Device



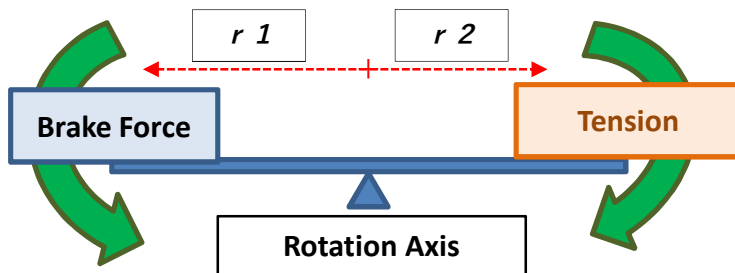
# Article Packaging Device

When the clockwise torque that causes the tension to act on the roll paper to rotate is greater than the counterclockwise torque that causes the braking force to prevent the roll paper from rotating, the roll paper begins to rotate and will continue to rotate as long as the both torques are equal.

▲ Clockwise Torque =

Amount of Tension ×

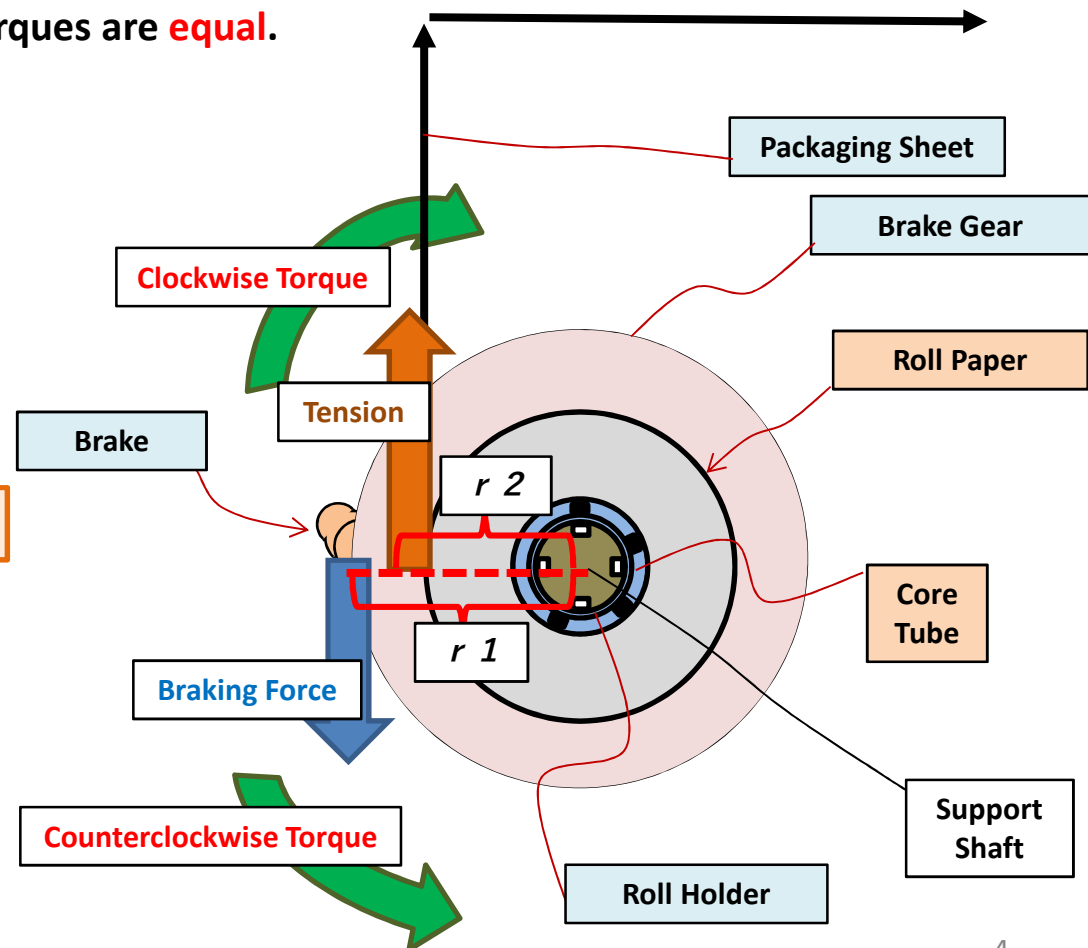
Distance from Rotation Axis ( $r_2$ )



▼ Counterclockwise Torque =

Amount of Braking Force ×

Distance from Rotation Axis ( $r_1$ )



# Article Packaging Device

When the packaging sheet is consumed and the outer diameter of the roll paper decreases,

**clockwise torque** decreases

because the distance ( $r_3$ ) from the rotation axis to the position acting on **the tension** becomes shorter.

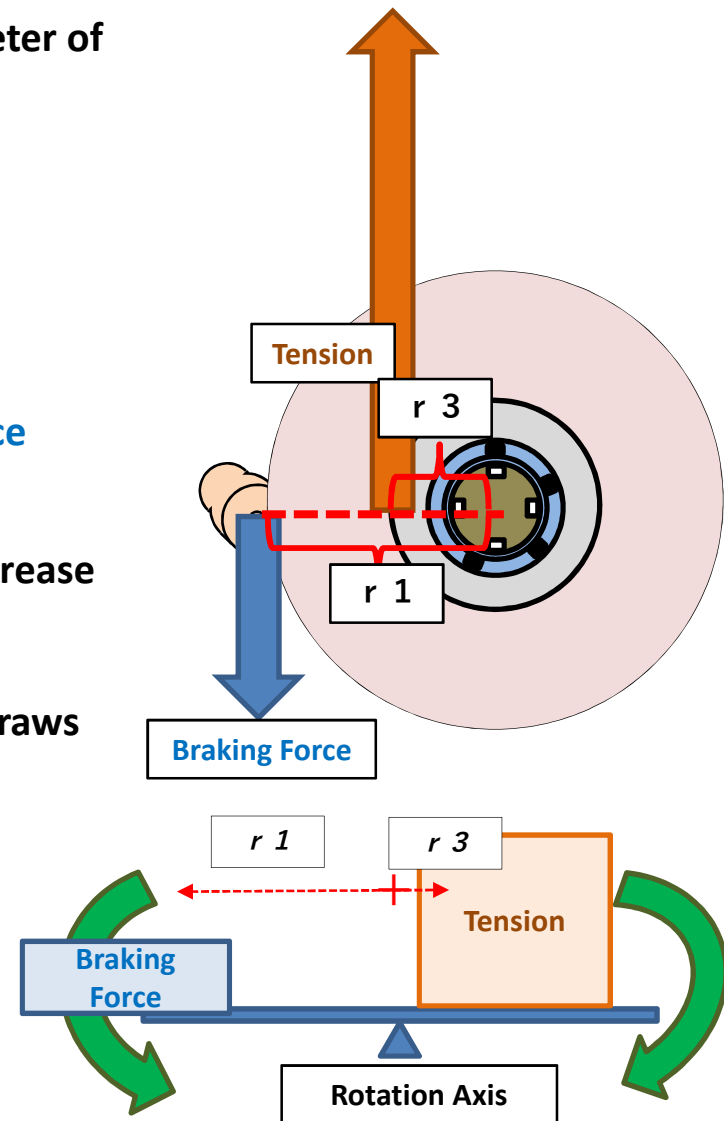
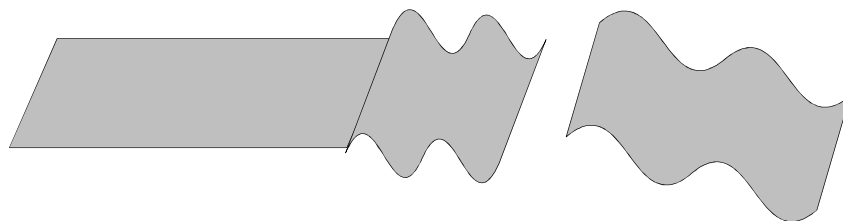
**counterclockwise torque** is constant

because neither the brake position nor **the braking force** changes.

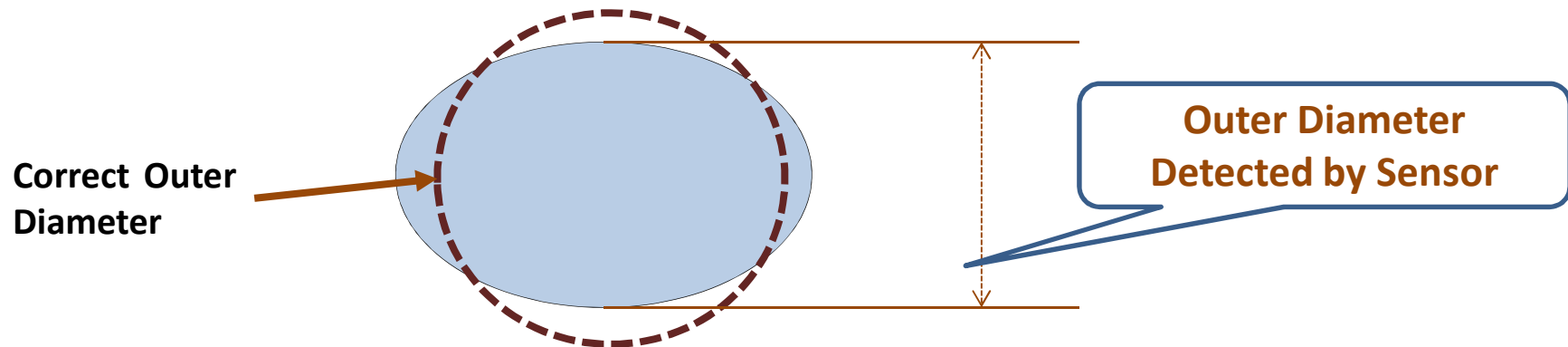
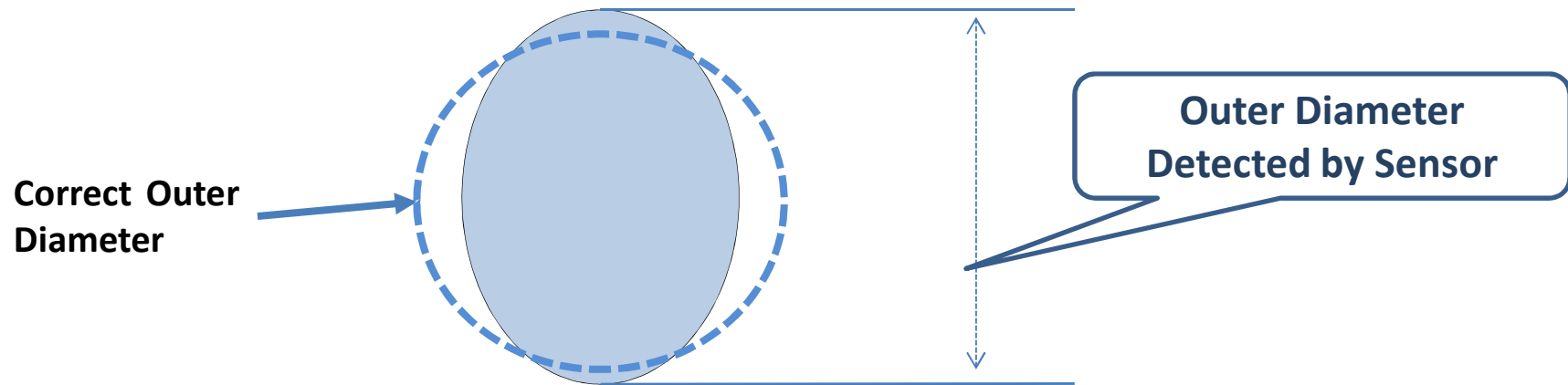
→ In order for the roll paper to rotate, **the tension** must increase as the outer diameter decreases.

⇒ In an attempt to rotate the roll paper, the supply roller draws out the packaging sheet more strongly.

If **the tension** becomes too large, the durability of the packaging sheet will be exceeded, and the sheet will be cut.

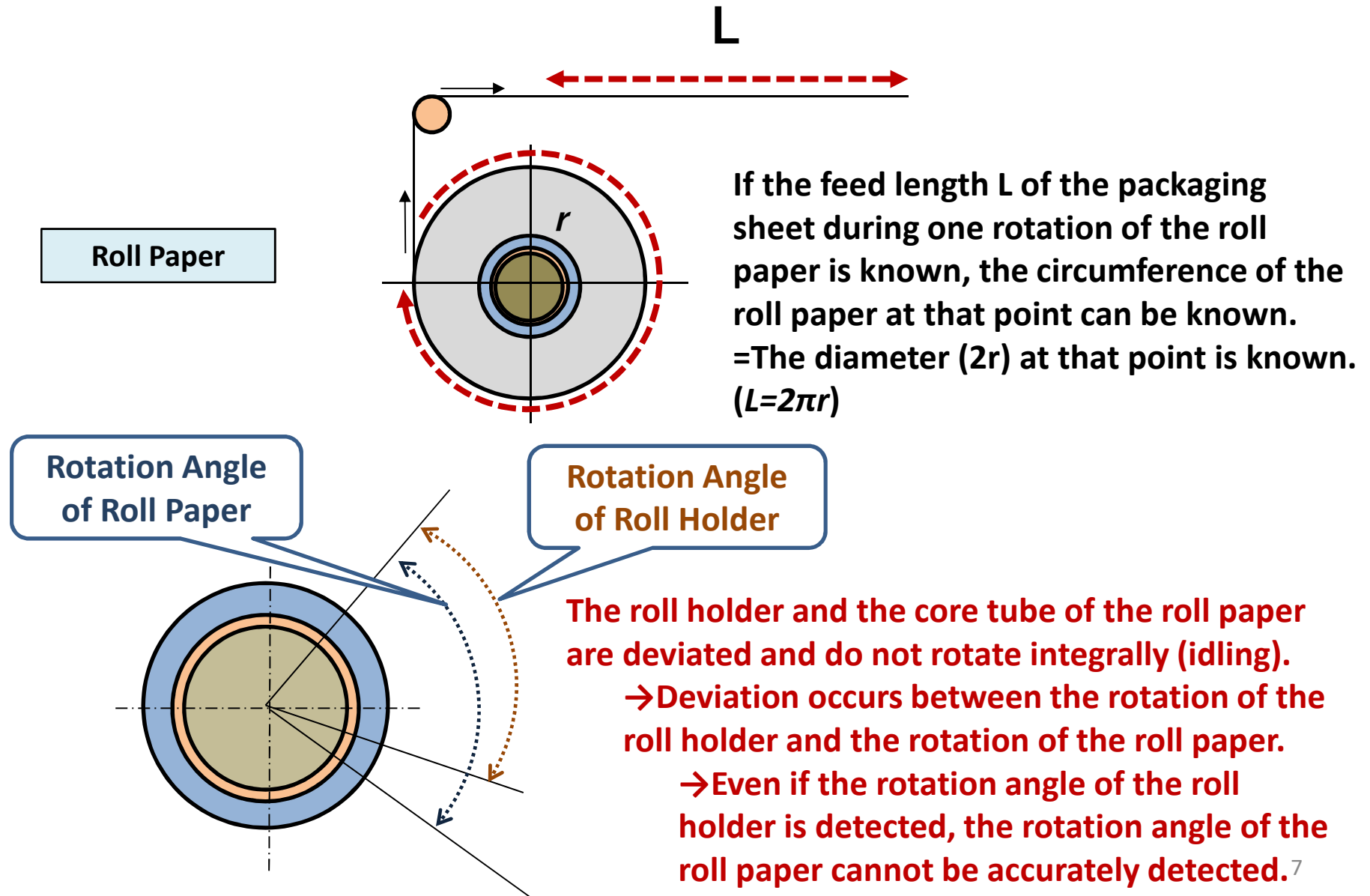


# Article Packaging Device



**The correct outer diameter cannot be detected due to the distortion of the roll paper.**

# Article Packaging Device



# Problems of the Prior Art and Purpose of the Present Invention

## Problems:

- In order to draw out the packaging sheet with an appropriate tension, it is necessary to apply a braking force according to the outer diameter of the roll paper to the rotation of the roll holder.
- A sensor that directly detects the outer diameter of the roll paper cannot accurately detect the outer diameter due to factors such as distortion of the outer shape of the roll paper.
- A sensor that detects the rotation angle of the roll holder cannot accurately detect the rotation angle of the roll paper due to the rotational deviation between the roll holder and the core tube of the roll paper.

## Purpose:

- In order to accurately detect the rotation angle of the roll paper, the rotation angle of the roll paper itself is directly detected, and the braking force applied to the roll holder on which the roll paper is attached is appropriately adjusted according to the outer diameter of the roll paper.



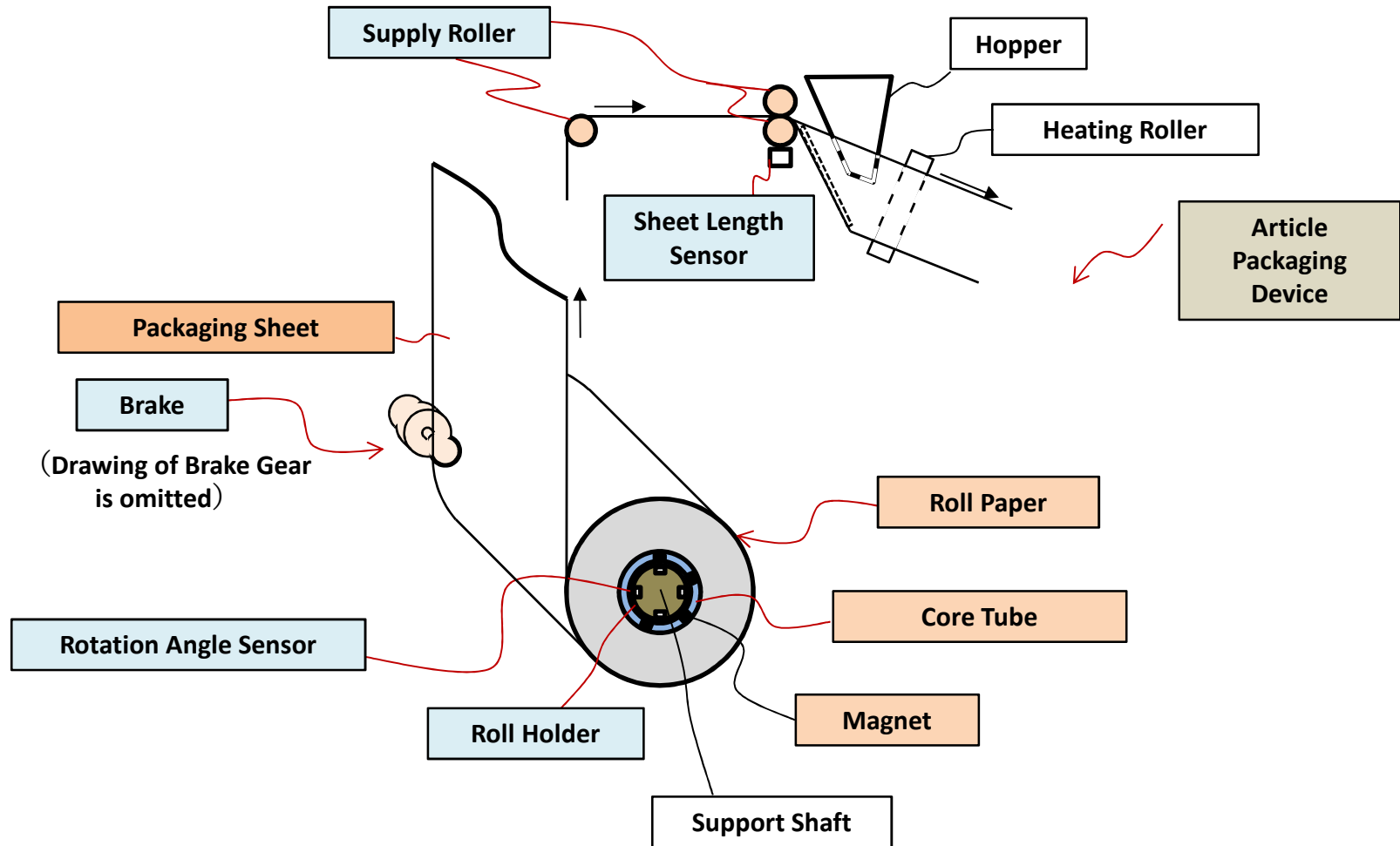
# Claim of the Patent

- A** A roll paper used for an article packaging device,  
**B** wherein the article packaging device,  
comprising:
- B1** a rotatable roll holder to which the roll paper is detachably attached;
  - B2** a feed roller drawing out a heat-sealable packaging sheet from the roll paper;
  - B3** a rotation angle sensor detecting a rotation angle of the roll paper;
  - B4** a sheet length measuring sensor measuring sheet feed length drawn out from the roll paper; and
  - B5** a brake applying a variable braking force to the roll holder,
  - B6** is configured to adjust the braking force applying to the roll holder based on the outer diameter of the roll paper calculated from the detected signals of the rotation angle sensor and the sheet length sensor, and

# Claim of the Patent

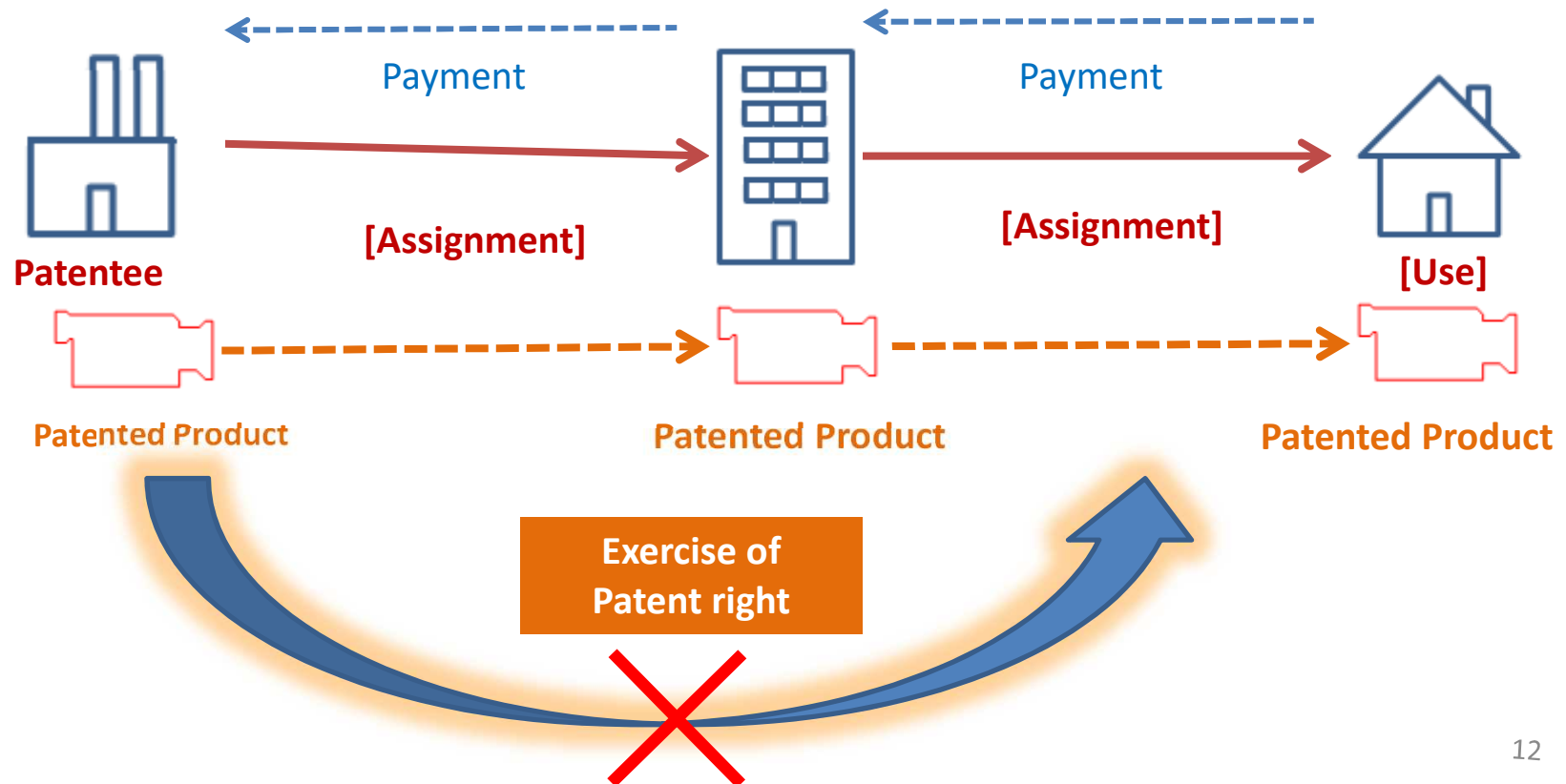
- C wherein the roll paper,  
comprising:
  - C1 a core tube, having magnets, attachable to the roll holder;
  - C2 a packaging sheet wound around the core tube; and
  - C3 the magnets are disposed at respective positions detectable by the rotation angle sensor when the core tube is attached to the roll holder.

# Claim of the Patent



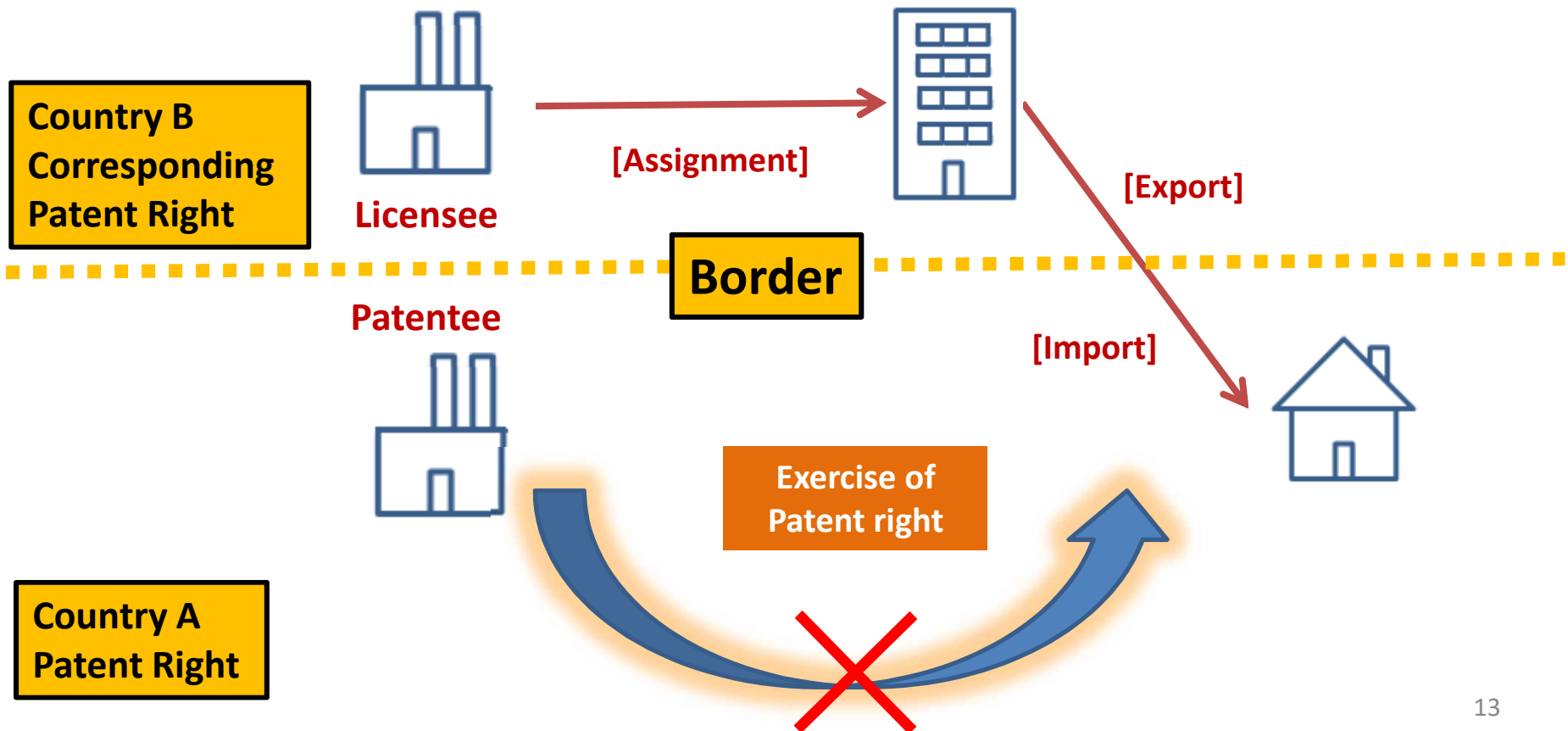
# What is "Exhaustion"

"Exhaustion" means that the patentee is not allowed to exercise the patent right over the patented product if it is lawfully distributed by the patentee or the licensee, even if there is an act equivalent to the act of working the patented invention (use, resale, etc.).

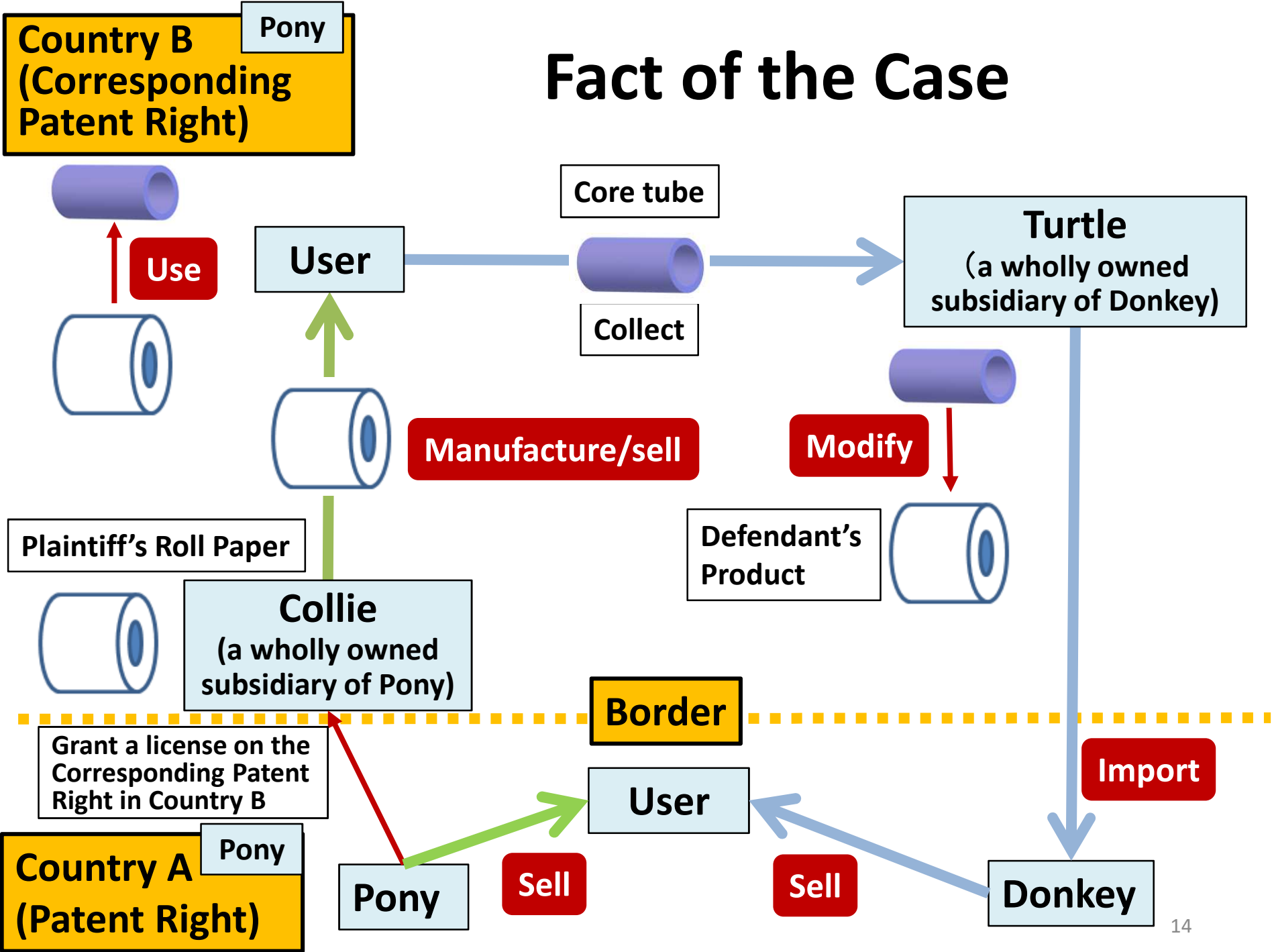


# What is “Exhaustion”

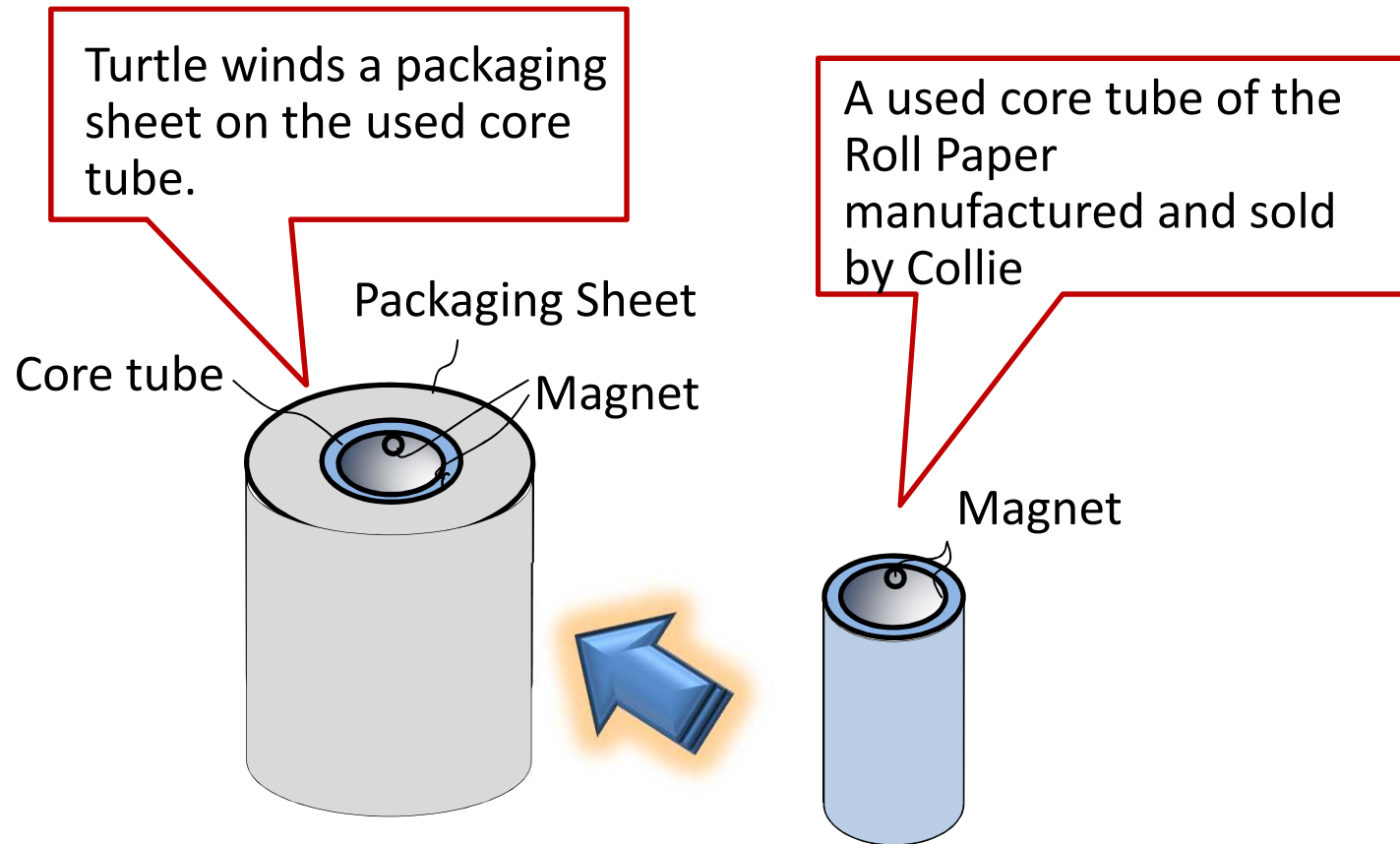
“International Exhaustion” means that the patentee is not allowed to exercise the patent right over the patented product in **Country A** if it is lawfully distributed by the patentee or the licensee in the foreign country (**Country B**), even if there is an act equivalent to the act of working the patented invention (import etc.) in **Country A**.



# Fact of the Case



# Defendant's Product



# Arguments

## Pony

**International Exhaustion**

**International Exhaustion cannot be affirmed in any aspect.**



**Modification or Replacement of Components, etc.**

**The Defendant's Product became the product losing the identity of the product by winding the packaging sheet around the used core tube.**

## Donkey

**International Exhaustion**

**International Exhaustion can be affirmed under certain requirements. Here in this case, such requirements are satisfied.**



**Modification or Replacement of Components, etc.**

**Winding the packaging sheet around the used core tube is only an act of replacement of a consumable component.**