

Tablet coating

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COATING OF TABLETS

- **Tablets are coated for following purposes:**
 - ✓ To mask the unpleasant taste and odour
 - ✓ To improve the appearance of tablets
 - ✓ To prevent the medicament from atmospheric effects
 - ✓ To control the site of action of drugs (Enteric coating)
 - ✓ To produce the sustained released product.
- **The tablet coating is generally done by using any of the following processes:**
 - ❖ Pan coating
 - ❖ Press coating

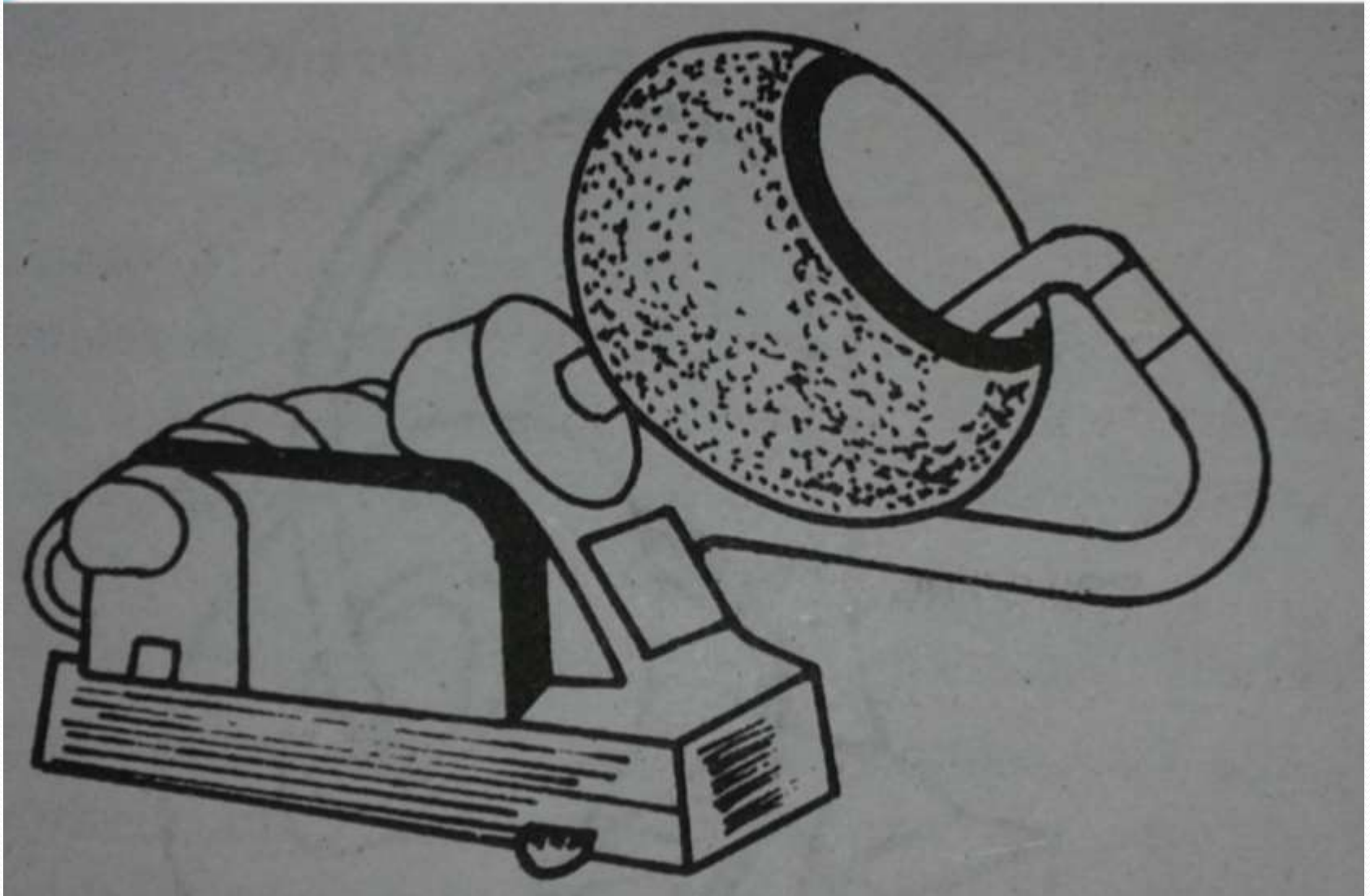
PAN COATING

- In this technique coating is done in pan.
- This pan made up of copper or stainless steel.
- This pan rotated with the help of an electric motor.
- Hot air is blow in & the speed of the pan adjusted in a such a way that the tablet remain separated from each other.
- After coating polishing is done in polishing pan.
- Pan coating technique used for sugar coating, film coating & enteric coating.

PRESS COATING

- In this technique firstly prepared coating material.
- Then, this coating material spread on performed tablets in a Drycota rotary tablet machine.
- The whole operation is carried out automatically in a number of series.

TABLET COATING PAN



SUGAR COATING

- Sugar coating technique it is the oldest method for mask the taste of tablets.
- But now a days a various stages involved in sugar coating for improving it's aesthetic value.
- The various stages are as follows:
 1. Sieving
 2. Sealing
 3. Subcoating
 4. Syrup coating
 5. Finishing
 6. Polishing

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- **Sieving** : The tablets to be coated are shaken in a suitable sieve to remove the fine powder or broken pieces of tablets.
- **Sealing** : At this stage prepared the water proof layer on the surface of the tablet. This is done by using shellac or cellulose acid phthalate.
 - Firstly shellac or cellulose acid phthalate is dissolved in alcohol or acetone & it's several coats are given in a coating pan.
- **Subcoating** : At this stage building up the tablet size by several coats of concentrated syrup containing acacia or gelatin. After each addition of syrup, dusting powder is sprinkled. The dusting powder is a mixture of starch, acacia & talc. Dusting powder does not allow the tablets to stick together. That all process done in coating pan.

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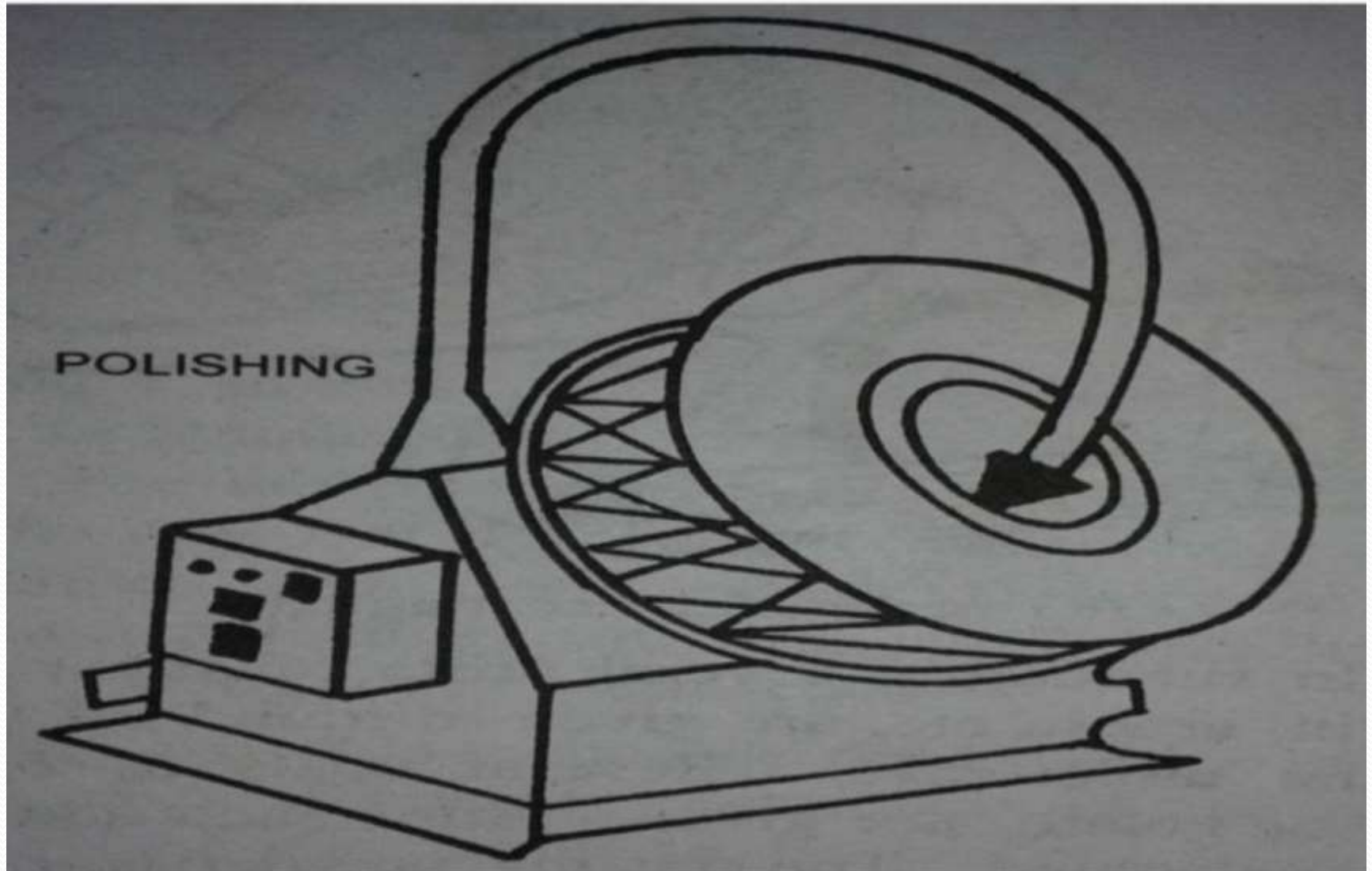
- **Syrup Coating** : At this stage sugar coat, opacity & colour apply to the tablets.
 - Several coats of the syrup with syrup contains coloring material & opacifying agents are applied to the tablets.
- **Finishing** : Three to four coats of syrup are applied in rapid succession without dusting powder & cold air is circulated to dry each coat. This forms a hard smooth coat.

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- **Polishing :**

- ❑ In that stage, firstly beeswax is dissolved in volatile organic solvent.
- ❑ Then this solvent use to polishing on tablets.
- ❑ For polishing purpose polishing pan is used, which is made of canvas cloth.
- ❑ The polishing pan rotated at a suitable speed so that the wax coated tablets are rubbed on the canvas cloth.
- ❑ This gives a proper shining to the tablets.

POLISHING PAN



FILM COATING

- Film prepared or coated by using single or mixture of polymers such as, HPMC, hydroxyethyl methyl cellulose, carbowax, PEG-400 etc.
- In film coating firstly polymers is dissolved in some volatile organic solvent & is sprayed over the tablets in rotating pan or pan coating.
- This process is continue until the a uniform good film is formed over the tablets.
- Film coating is also used to make the tablets water proof before the sugar coating. Film coating can be enteric or non-enteric.

Advantages of film coating

- It protects the drug from atmospheric changes, such as light, air & moisture.
- Coating is resistant to cracking & chipping.
- It does not increase the weight.
- The tablets become elegant.
- Not much labour required.
- It is less time-consuming technique.

ENTERIC COATING

- Enteric coated tablets is given to ensure that these tablets will not disintegrate in stomach but pass in the intestine & get disintegrate.
- Using the rotating pan for coating purpose.
- salol, cellulose acetate phthalate, shellac which are dissolved in a volatile organic solvent for coating purpose.
- **Reasons for enteric coating :**
 - Medicaments produce some irritation in the stomach.
 - The action of medicaments is required in the intestine e.g. anthelmintics & amoebicides.
 - Medicaments get decomposed or destroyed by the acidic medium of stomach.
 - Delayed action is needed.

Thank you!