

PRESENTATION:

CRUSHING OF RAW MATERIALS. TYPES OF CRUSHERS.

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PLAN:

1. **Crushing of raw materials.**
2. **Types of crushers.**

❖ Crushing of raw materials

Crushing is the process of crushing large pieces of rock material from initial size to the desired.

Basic principles crushing:

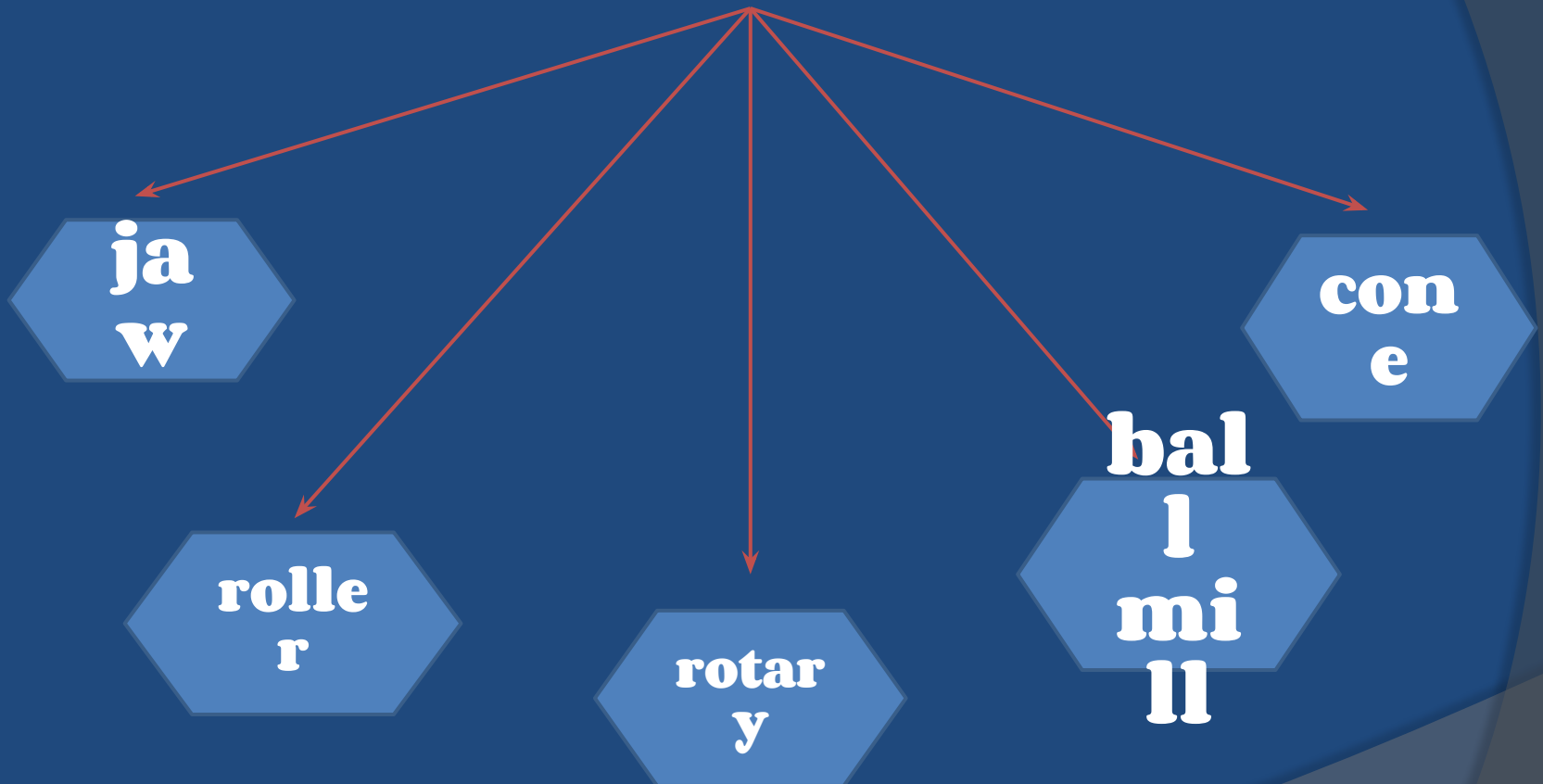
1. Not to split anything extra
2. First to split, then split up.



Methods of grinding can be selected depending on physical properties of the material, the degree of largeness of pieces and the degree of decomposition. According to the degree of fineness of the material is divided into large (sizes over 500 mm), medium (sizes from 500 to 10 mm), small (the size of pieces less than 10 mm).

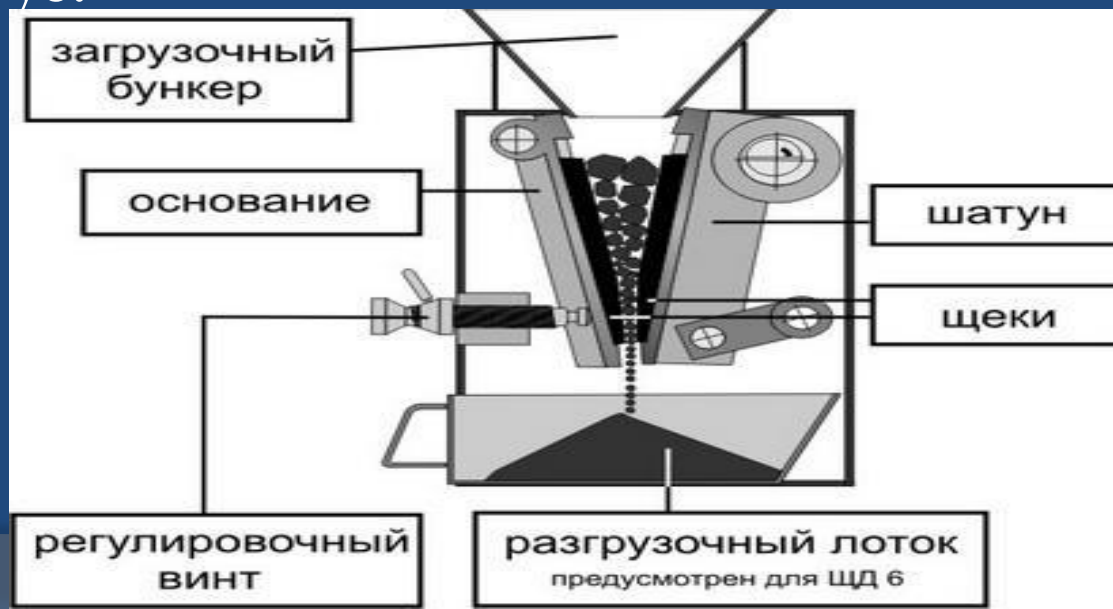
There are various ways of grinding: the abrasion, impact, crushing, cutting, chopping, bending, crushing explosive. In the crushing and grinding machines grinding is usually carried out in a combined way.

❖ Types of crushers.



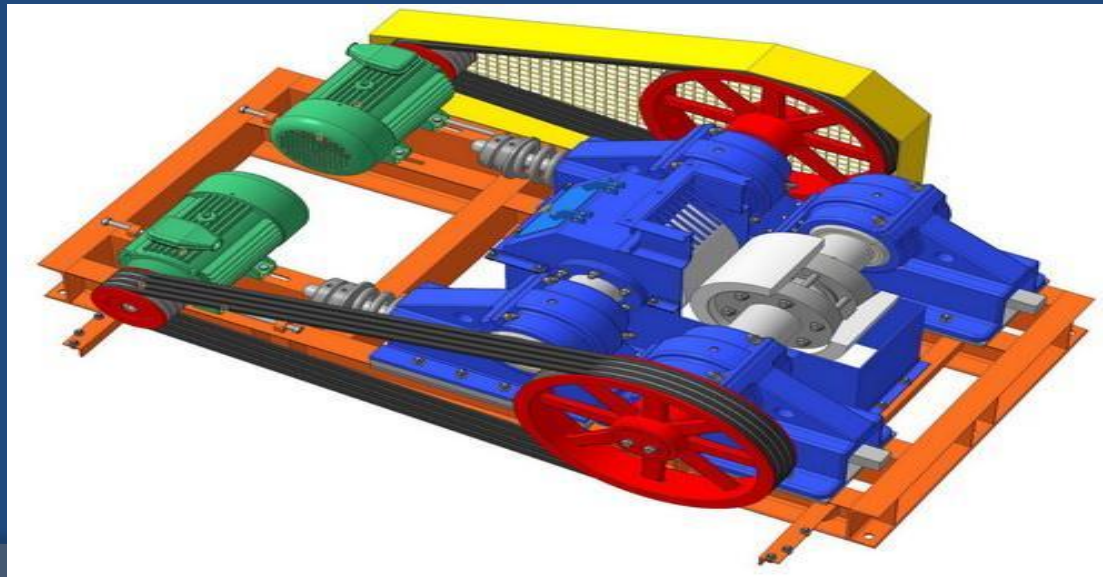
❖ Jaw crusher

Jaw crusher is a type crusher, using for destruction of pieces of material by compression of the cheeks. Jaw crusher is a versatile machine for crushing of materials. Applied to rocks of any strength, the slag, some metallic materials. Use is not possible in viscoelastic materials, such as wood, polymers, certain metal alloys.



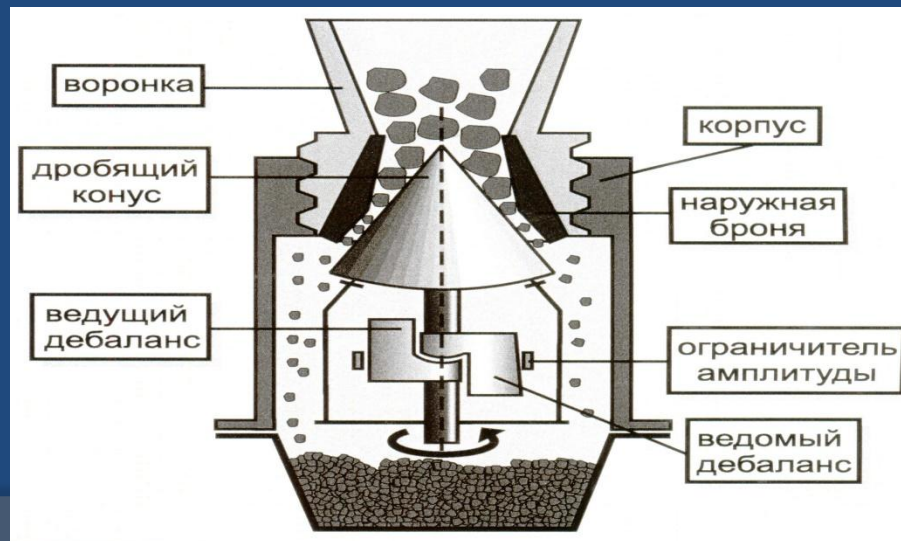
❖ Roller crusher

Roll crusher processing of crushing equipment equipped with rollers attached thereto toothed segments having the shape of a polyhedron, tightly fitted on the shaft. Suitable for the crushing of rocks by tightening the material forces of friction and crushed between two parallel cylindrical rolls rotating at the same speed towards each other and screen out oversize lumps of rock.



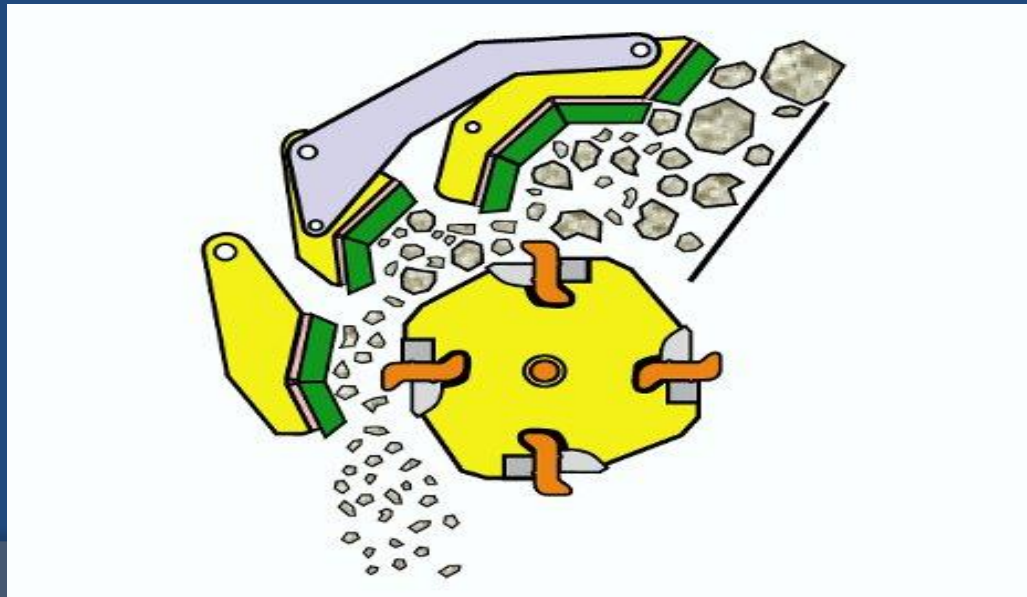
❖ Cone crusher

Cone crusher is the coarse crushing (KKD-1500/180) — crushing unit of continuous operation, designed to work under the obstruction that allows the direct flow of rock mass, such as dump cars (in special for transportation of bulk materials). Most often used for the crushing of ore minerals, in particular magnetite-quartzites, less frequently, of monzonites. The crushing process is the wear and breakage of rocks, provide a circular swing of crushing cone (gyratory movement).



❖ Rotary crusher

Rotary crusher — mechanical crushing machine with fixed working parts — Balaam (blades), designed for crushing materials small fortress by a massive rapid rotation of the rotor with rigidly fixed working bodies — hammers (Balaam) and repeated blows of the pieces on the striker plates or gratings.



❖ Ball mill crusher

A drum-ball mill device for grinding solid materials. Is mainly applied in the mining industry, to create a powder for use in paints, pyrotechnics tools, and ceramics. Drum mills are used in the production of cement, lime, gypsum, ceramic products, etc. for pulverizing the material to a particle size of less than tenths of a millimeter. The grinding process differs high power consumption and cost.

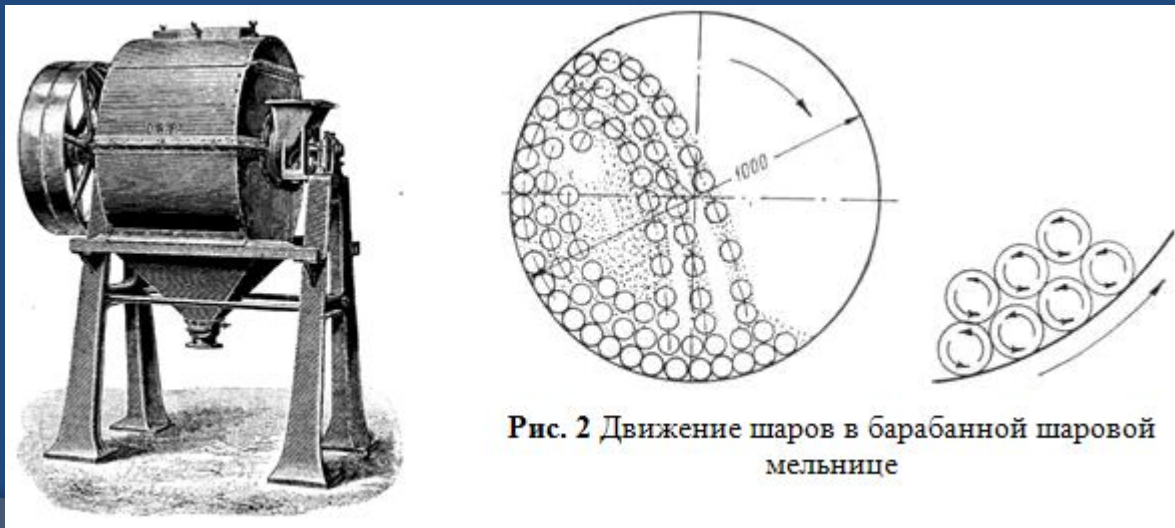


Рис. 2 Движение шаров в барабанной шаровой мельнице

**Thank
you**