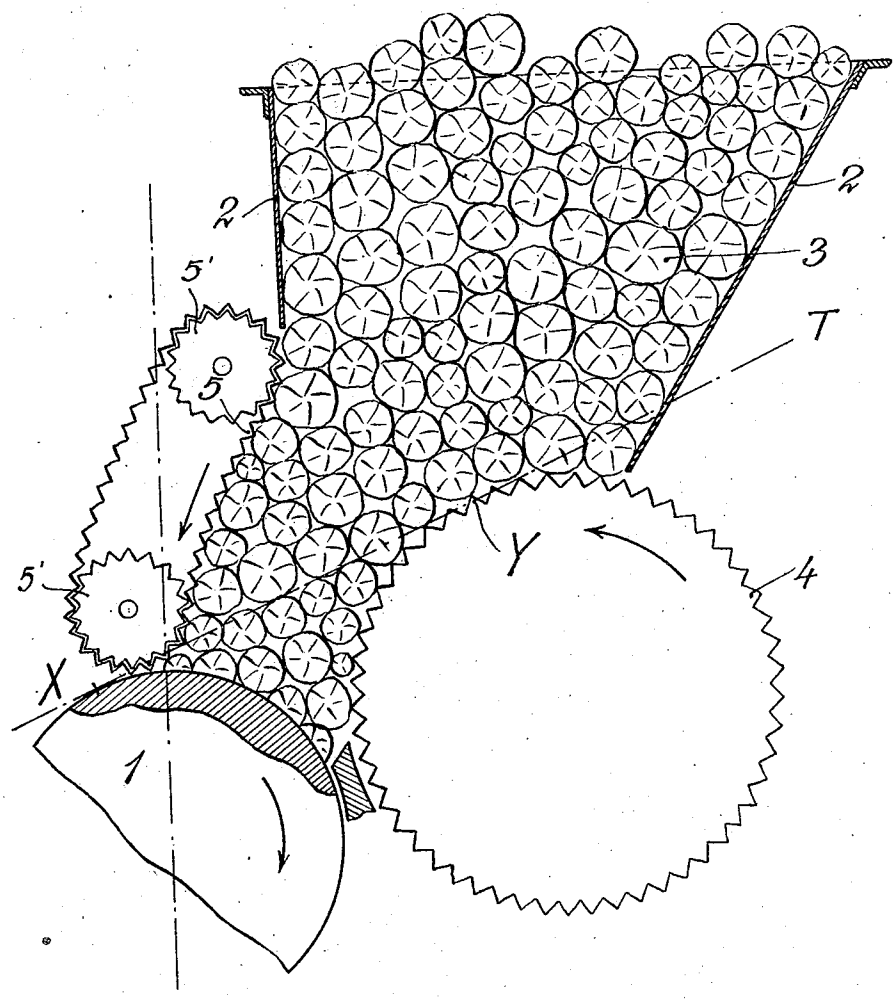
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MAGAZINE GRINDING APPARATUS WITH POWER DRIVEN FEEDING DEVICE

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# UNITED STATES PATENT OFFICE.

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## MAGAZINE GRINDING APPARATUS WITH POWER-DRIVEN FEEDING DEVICE.

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The present invention has for its object a magazine grinder of the type which is provided with a mazagine located above a grind-stone and the lower part of which is provided with mechanically driven feeding devices (teeth, spikes, etc.) which grip the side faces of the wood logs in order to press the latter against the grind stone.

The object of the present invention is to obtain an even continuous feeding movement with an easily regulated pressure and to obviate the risk of vault forming in the magazine with the result of choked feed.

This object is attained in accordance with the present invention by giving one of the feeding devices such a form that its gripping members (spikes, teeth or the like) move along the curve which at first cuts into the magazine at a comparatively large angle with the magazine wall and then gradually merges into the direction which is parallel or practically parallel to the said magazine wall.

This feeding device accordingly forms a bottom or a substantial part of the bottom of the magazine and carries the largest part of the weight of the log column.

Preferably the said feeding device may consist in a rotating tooth or spike-drum or roller, but it may also be formed by chains moved over suitable curved guides.

Further in accordance with the invention the log shaft or magazine is located entirely on one side of a vertical plane through the grind stone's axis and the axis of the said tooth or spike-drum is then located parallel to the grindstone axis approximately below the center of the upper surface of the magazine.

On the drawing a form of the invention is diagramatically illustrated in vertical cross section.

1 is the grind-stone and 2 is the magazine, the upper part of which has the form of a tapering funnel and is filled with wood logs 3. The magazine—as will be noted—is placed entirely to the right of the vertical plane through the grind stone axis and is provided at its lower end with gripping or feeding devices engaging the side faces of the wood logs.

At the underside of the magazine the feeding device consists of a toothed drum or roller 4, part of the circumference of which lies inside the magazine and the circumferential surface of which forms a large angle with the right magazine wall at the point where it intersects the latter.

In this manner the bottom of the magazine is mainly formed by the feeding drum or roller 4 which on rotating in the direction of the arrow starts by moving the logs away from the right hand magazine wall and ends by pressing the logs in the direction of the grindstone 1.

At the opposite magazine wall there is located a feeding device having the form of an endless toothed drum or spiked chain 5, driven and guided by wheels 5′ which cooperates with the rotating drum 4 in order to procure the pressing action.

The forming of vaults or arches in the lower part of the magazine is entirely prevented by the movement of logs from the right hand wall of the magazine inwards, towards the middle part of the shaft caused by feeding drum 4.

As mentioned above the feeding drum obviously may be replaced by an endless feeding chain which is guided with relation to the shaft in such a manner that the same feeding action is obtained. Also the feeding chain 5 obviously may be replaced by any of the known feeding devices.

The location and form of the feeding device 4 with relation to the wood log magazine 2 and grindstone 1 may be defined by the fact that the common tangent T to the overside of the grindstone circumference (at X) and to the overside of the curve along which the feeding device 4 is conducted touches the latter in a point Y which lies in the interior of the magazine.

Claims:

1. In a magazine grinder, a rotating grind stone, a wood log magazine above the grind stone and located substantially on one side of the vertical plane passing through the grind stone axis, feeding devices in the lower part of the magazine for engaging the side faces of woodlogs to press them against the grind stone, the feeding devices remote from said vertical plane conducted along a curve which is so formed and positioned relative to the grind stone and the magazine that the tangent common to the upper edge of the grind stone and the upper edge of said curve, touches said curve at a point lying in the interior of the magazine.

2. In a magazine grinder, a rotating grind stone, a wood log magazine above said grind stone and located substantially on one

side of the vertical plane passing through the grind stone axis, feeding devices in the lower part of the magazine arranged to engage the side faces of wood logs to press them against the grind stone, the feeding devices remote from said vertical plane being conducted along a curve which forms a large angle with the magazine wall at the point of intersection of said curve and a line tangent to both the curve and the upper edge of the grind stone.

3. In a magazine grinder, a rotating grind stone, a wood log magazine above the grind stone and located substantially on one side of the vertical plane passing through the grind stone axis, feeding devices in the lower part of the magazine for engaging the side faces of wood logs to press them against the grind stone, the feeding devices remote from said vertical plane having a feeding movement, at the point where they enter the magazine, in a direction which forms a large angle with the direction of the feeding movement of the remaining feeding devices.

4. In a magazine grinder, a rotating grind stone, a wood log magazine above the grind stone and located substantially on one side of the vertical plane through the grind stone axis, feeding devices in the lower part of the magazine, for engaging the side faces of the wood logs to press them against the grind stone, the feeding devices nearer said vertical plane including a continuous tooth chain having a feeding movement substantially radial with regard to the grind stone axis and the feeding devices remote from said vertical plane including a rotatable tooth-drum the circumference of which enters the magazine wall at an angle of at least 45°.

In testimony whereof I have signed my name to this specification.

OTTO ANDRESEN.