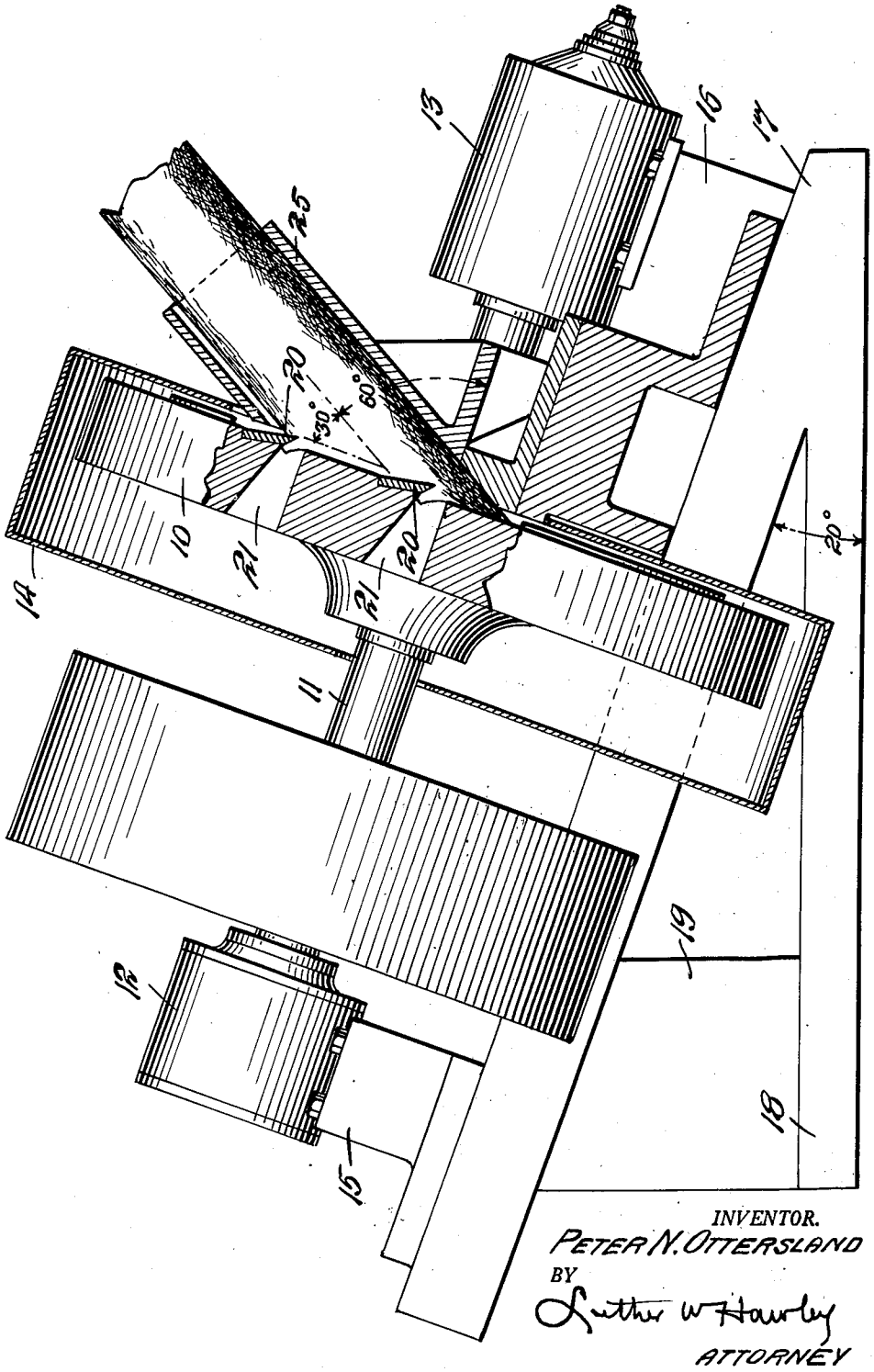
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DISK CHIPPER WITH HORIZONTALLY INCLINED ROTARY AXES

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DISK CHIPPER WITH HORIZONTALLY INCLINED ROTARY AXES

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3 Claims. (Cl. 241—92)

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This invention relates to disk chippers with horizontally inclined rotary axes which are used for cutting or chipping logs into chips suitable for use in paper pulp machines.

Chippers of the character described are usually so constructed that the logs are fed in a direction substantially at a 45° angle to the plane of operating of the cutting knives or of the chipper disk which carries the knives. Thus the knives cut substantially across the the grain of the wood being cut. This operation results in chips which are badly bruised and irregular at their ends.

This invention has for its salient object to provide a chipper so constructed and arranged that the chips will be cleanly cut at the ends and will not be slabbed off.

Further objects of the invention will appear from the following specification taken in connection with the drawing which illustrates in side elevation and partly in section a chipper constructed in accordance with the invention.

In the particular embodiment of the invention shown in the drawing, the chipper comprises a disk 10 mounted on a shaft 11 supported in bearings 12 and 13. The disk 10 is enclosed in a casing 14.

The shaft bearings are supported on bearing supports 15 and 16 which, in turn, are mounted on a base 17. The base 17 is mounted at an angle on a bed plate 18 by suitably supporting members, such as block 19.

The chipper disk 10 has knives 20 mounted thereon and radiating from the axis of the disk and in back of each knife 20 is a slot 21 for receiving the chips.

The logs are fed to the chipper disk and knives through a chute 25, the axis of the chute being disposed approximately at an angle of 60° to the axis of the disk and approximately at an angle of 30° to the plane of the disk 10 and of the knives 20.

It has been found that a cut more lengthwise or in the direction of the grain produces better chips and when the log is fed through the chute at an angle of approximately 30° to the plane of operation of the knives, a better chip is produced. However, when the log is so fed and has been cut to a length of approximately 10 inches, it is then slabbed off parallel to the grain instead of in chips. Therefore, in order to get the log more

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nearly horizontal as it is fed to the chipper and to still feed the log at an angle of approximately 30° to the plane of the disk and knives, the base 17 of the chipper is tilted and supported at an angle to the bed 18 as, for instance, at an angle of approximately 15° to 20°.

In this way the log will remain stable as it is fed and the cuts will be made more nearly lengthwise of the grain than has heretofore been possible.

Although one specific embodiment of the invention has been particularly shown and described it will be understood that changes in the construction and in the arrangement of the cooperating parts may be made without departing from the spirit or scope of the invention, as expressed in the following claims.

What I claim is:

1. A chipper for chipping logs comprising a shaft, bearings for the shaft, a chipper disk on the shaft at right angles thereto, knives on the disk, an inclined chute for feeding logs by gravity to the chipper disk, the axis of said chute being inclined away from the plane of the disk at approximately a 30° angle, and means for supporting said chipper disk, chute, shaft and bearings with the axis of the shaft disposed at an angle of approximately 15°–20° to the horizontal and the chute approximately 45°–50° to the vertical whereby the gravity component on the log is increased in the direction of the bottom of the chute to maintain the bottom contact between the log and the chute throughout the length of the logs.

2. A chipper for chipping logs comprising a shaft, bearings for the shaft, a chipper disk mounted on and disposed at right angles to the shaft, a gravity feed chute inclined at an acute angle to the disk, and means for supporting the disk shaft with the axis of the shaft inclined at an acute angle to the horizontal and the chipper disk facing downwardly and the feed chute inclined to the horizontal at about 50° or less, whereby the gravity component on the log is increased in the direction of the bottom of the chute to maintain the bottom contact between the log and the chute throughout the length of the logs.

3. A chipper for chipping logs comprising a shaft, bearings for the shaft, a chipper disk

mounted on the shaft and disposed at right angles thereto and facing downwardly, knives on the disk, an inclined chute for feeding logs by gravity to the chipper disk, the axis of the chute being inclined away from the plane of the chipper disk approximately 30°, and means for supporting the shaft at an angle to the horizontal and the chute axis at an angle of approximately 40° to the horizontal whereby the gravity component on the log is increased in the direction of the bottom of the chute to maintain the bottom contact between the log and the chute throughout the length of the logs.

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