H. T. HOLM.

WET BARKING MACHINE.

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1,386,930.

Patented Aug. 9, 1921.

Fig. 1.

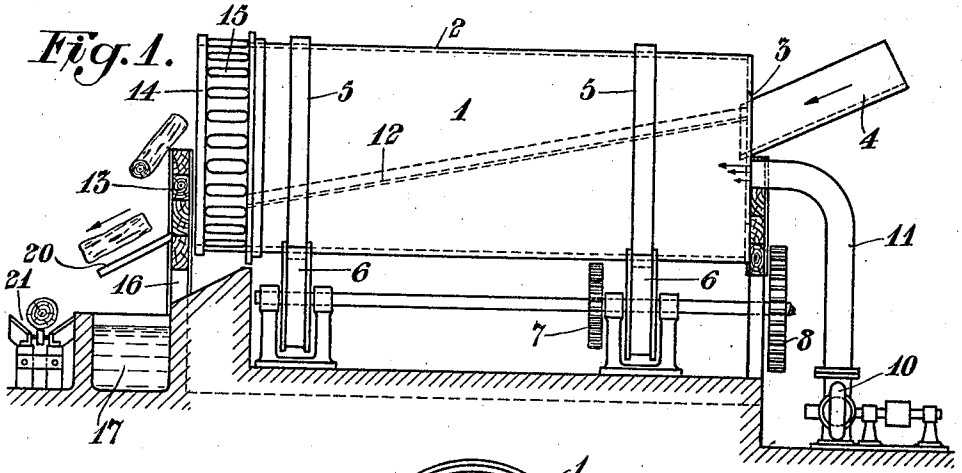


Fig. 2.

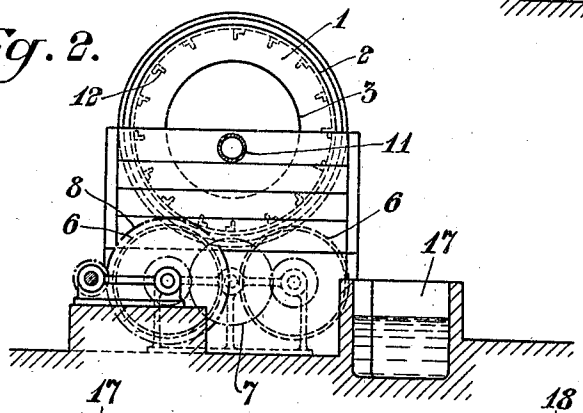
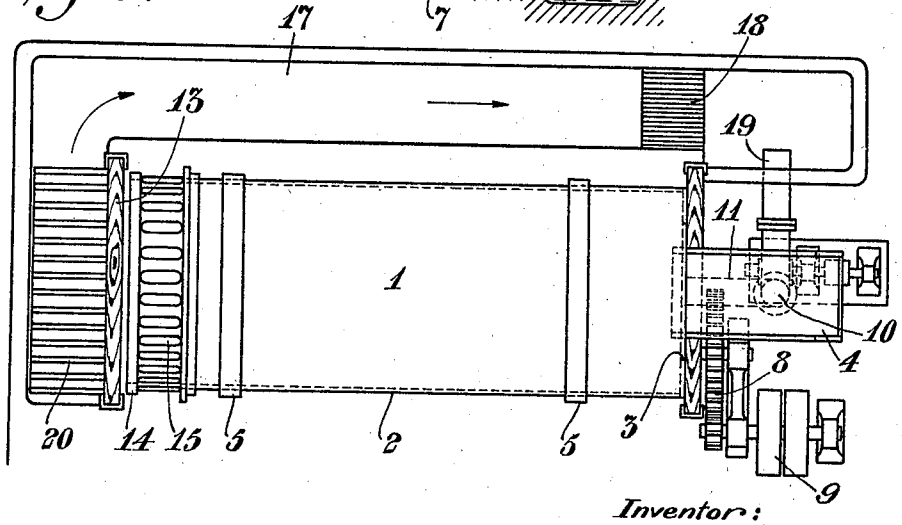


Fig. 3.



Inventor:

Hans Theobald Holm

By George Bayard Jones

Attorney

UNITED STATES PATENT OFFICE.

HANS THEOBALD HOLM, OF KARLSTAD, SWEDEN.

WET-BARKING MACHINE.

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To all whom it may concern:

Be it known that I, HANS THEOBALD HOLM, a subject of the King of Sweden, residing at Karlstad, in the Kingdom of Sweden, have invented a new and useful Improvement in Wet-Barking Machines, for which I have filed applications in Sweden, December 19, 1917, No. 4,214, and in Norway, September 2, 1918, No. 14,286, of which the following is a specification.

Heretofore continuously operated wet barking machines comprised, as a rule, a substantially horizontally disposed cylindrical drum made of angle iron, or rods, said drum rotating partially submerged into water in a trough. The timber or logs with the bark left on, are fed into said drum at one end, and are delivered in barked condition at the other end. It has proved to be great disadvantage in such wet-barking machines that the bark which is supposed to drop out between the rods, will gradually fill the entire trough and interfere with the bearings of the drum, for which reason special means and devices have been resorted to for supporting and journaling the drum and for removing the bark from the trough.

According to the present invention the said disadvantages are completely avoided without any such special means and devices having to be resorted to. The invention is broadly characterized by this that the drum consists of a solid shell which is more closed at its inlet end than at its outlet or delivery end, or in other words, which is at least partially closed at its inlet end. In this manner it is attained that it is not necessary to submerge the drum into a trough with water, but the water may be introduced directly into the drum, and that on account of the inlet end being more or less closed the water can not escape at said end of the drum but must flow through the entire drum and bring along all bark in the same, afterward to flow out at the outlet or delivery end of the drum. The bark will thus not interfere with the bearings of the drum. The drum may preferably be constructed in such manner that it is contracted at the inlet end, and it may be provided in well-known manner with suitably oblique ribs on its inner wall, whereby a more efficient barking will be obtained and the escape of water mixed with bark will be facilitated by these ribs forming, together with the shell of the drum, outlet channels opening at the delivery end of the drum. In order to separate the barked logs from the bark there is preferably provided at the delivery end a closing device of previously known construction, placed at such distance from the drum that the space between the drum and said device is sufficiently large for letting through water and the bark, but is too narrow for the logs to fall through.

In order to attain the least possible consumption of water in such barking machines, or to render possible an economical use of hot water, the water used for barking the wood is directed, according to the present invention, through a bark separating device back to the inlet end of the drum, so that a greater or a less portion of the water is in constant circulation. For this purpose the bark and the water are caused to flow into a clearing tank adjacent or below the barking drum, from which tank the water, when strained, is again introduced into the drum by means of a suitable transporting device such as a pump, an elevator, a steam injector, or the like, the water thus being forced to complete its circulation.

The accompanying drawing illustrates an embodiment of the invention. Figure 1 shows an elevation of the barking machine, Fig. 2 shows an end view, and Fig. 3 a plan view.

The barking drum 1 is provided with a shell 2 of metal plate with a damming-up device 3 in the shape of a flange or ring at the inlet end of the drum, the said end being thus partially closed by said ring. The timber or wood logs are supplied by means of a suitable conveyer to the inlet chute 4. The shell 2 of the drum is surrounded by rings 5 by means of which the drum is rotated by said rings engaging driving rollers 6 which are rotated by means of gears 7 and 8 and pulleys 9. The water required for the barking is supplied from the pump 10 and is introduced at the inlet end of the drum through a tube 11 in one or more jets directed more or less in axial direction of the drum. On the inner side of the shell of the drum there are secured oblique ribs 12. A stationary or adjustable closing device 13 is provided at such suitable distance from the delivery end of the drum that the barked logs must fall out of the drum over said device, the distance be-

tween the drum and said closing device being sufficiently large, however, for letting through water and the bark. The delivery end of the drum is provided with a ring 14 having comparatively narrow slots 15 through which water and the bark flows out. The water and the bark flows from the space between the closing device 13 and the drum, and from the ring 14 through an opening 16 down into the tank 17, in which the bark is separated from the water, for instance by means of a grating 18. The suction pipe 19 of the pump 10 is connected to said tank, so that the water may again be used for the barking, if desired. 20 denotes a grating constructed in suitable manner, for the purpose of preventing the barked logs from dropping into the tank 17, and for directing said logs down into a chute 21 with a conveyer.

It will be understood that the damming-up device at the inlet end of the drum must not necessarily be rigidly secured to the drum, but it may consist, for instance, of a stationary wall against which the inlet end of the drum abuts. It will also be understood that in other respects the invention is not limited to the embodiment above described.

I claim:

1. In a wet-barking machine, a single rotary drum consisting of a solid horizontal shell provided with an inlet opening at one end for the logs and with a delivery opening at the other end, the said inlet end being more closed than the delivery end, for the purpose of preventing water admitted into the drum from escaping at the inlet end and for causing it to flow off at the delivery end.

2. In a wet-barking machine, a single rotary drum consisting of a solid horizontal shell provided with an inlet opening at one end for the logs and with a delivery opening at the other end, and having a contraction at its inlet end providing a smaller opening at said end than at the delivery end.

3. In a wet-barking machine, the combination of a single rotary drum consisting of a solid horizontal shell having an inlet end and a delivery end, and a ring secured to the inner wall of said drum at its inlet end, the opening in said ring being smaller than the opening of the drum at its delivery end.

HANS THEOBALD HOLM.