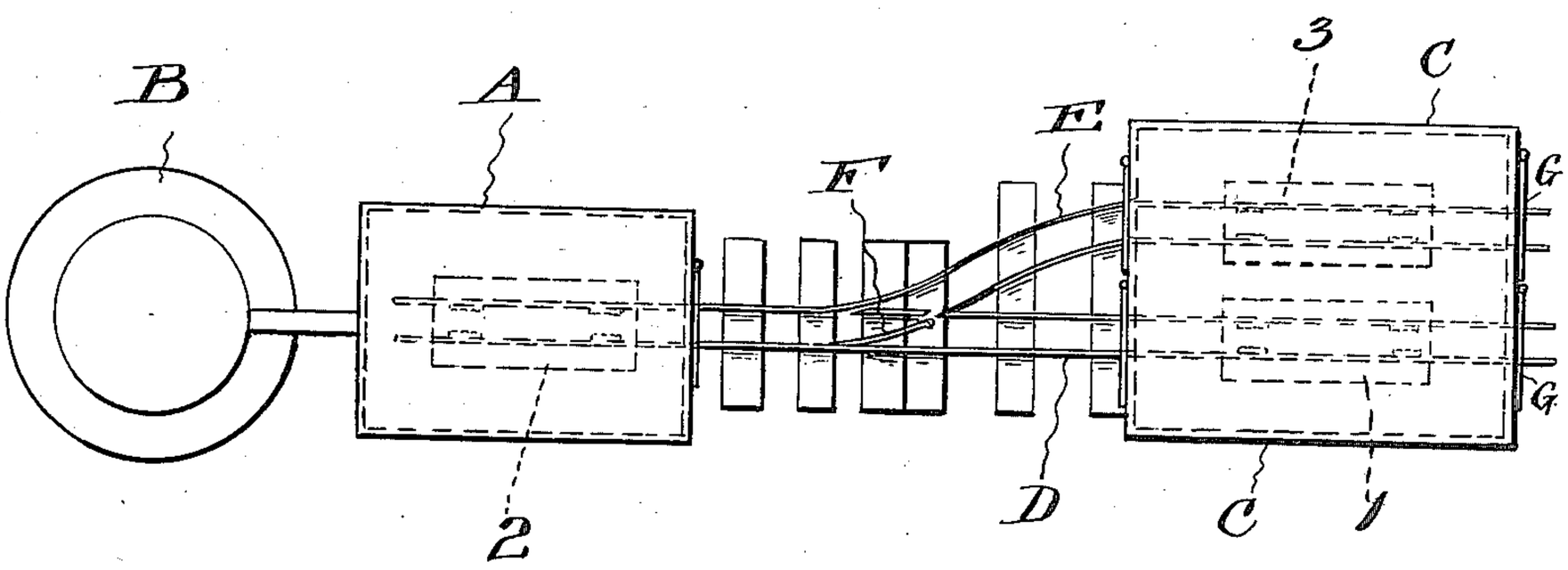
B. R. & M. J. LYSTER.

APPARATUS FOR REDUCING WOOD.

APPLICATION FILED AUG. 1, 1910.

995,796. Patented June 20, 1911.



Witnesses

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APPARATUS FOR REDUCING WOOD.

995,796. Specification of Letters Patent. Patented June 20, 1911.

Application filed August 1, 1910. Serial No. 574,748.

To all whom it may concern:

Be it known that we, BENTON R. LYSTER and MORTON J. LYSTER, citizens of the United States, and residents of Whitefield, in the county of Coos and State of New Hampshire, have invented certain new and useful Improvements in Apparatus for Reducing Wood, of which the following is a specification.

Our invention relates to devices for more economically extracting the alcohol and other products from wood in distillation plants; and it has for its object the provision of an apparatus by which the open air drying of the timber before being treated is dispensed with, the heat from the charred products of one batch being used to extract the excess moisture from a succeeding batch, so that when it reaches the oven it is ready to be treated without danger of the moisture in the untreated batch causing an excess of steam in the oven and water in the pyroligneous acid.

Another advantage of the use of our apparatus is that the heating of the untreated batch by the hot batch from the oven causes the moisture to leave the green wood and cool the fire in the hot batch and prevents it from wasting by being partly charred or consumed.

Our invention will be described in detail hereinafter and illustrated in the accompanying drawing, which is a plan view of a wood reduction plant embodying our improvement.

In the drawing A indicates the oven of our improved reduction plant, B the condenser, and C the cooler.

In our improved cooler we provide two tracks D and E, the track D being the track for the truck containing the charcoal resulting from treating the wood in oven A, and E a track on which the trucks containing green wood are run into the cooler, which said track E is connected with the track D by means of a switch F.

In use, after a batch of wood has been reduced by heat in the oven A, so that all the tar and pyroligneous acid is extracted therefrom and has passed into the condenser B, the trucks 1 containing the hot batch, which has been reduced to charcoal, are run on track D into the cooler C, and trucks 2, containing dried wood are run from the cooler on track E and onto track D over switch F. Trucks 3, containing green wood, are then run into the cooler, and the doors G are closed so as to confine the heat arising from the heated batch within the cooler. By this treatment, as before stated, the water vapor is driven out of the green wood and serves to cool the charcoal on the trucks and the green wood may be run into the oven within a few hours after being felled, instead of being subjected to an air-drying for a period of a year or more. Furthermore, the use of our apparatus saves a large percentage of volatile substances in the wood that is lost by the system of air-drying now in vogue.

Having thus described our invention, what we claim is—

1. In a wood-reduction apparatus, a charcoal-cooler having two tracks arranged side by side within a single inclosure, one of said tracks adapted to hold a hot batch of reduced wood, and the other track adapted to hold a quantity of green wood, substantially as shown and described.

2. In a wood-reduction apparatus, an oven, a charcoal-cooler comprising a single structure having two tracks arranged side by side therein, one of said tracks communicating directly with the oven and adapted to hold trucks containing a hot batch of reduced wood, the other track adapted to hold trucks containing a batch of green wood, and a switch connecting the two tracks, substantially as shown and described.

In witness whereof, we have hereunto set our hands in presence of two subscribing witnesses.

BENTON R. LYSTER.
MORTON J. LYSTER.

Witnesses:
W. H. COLBATH,
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