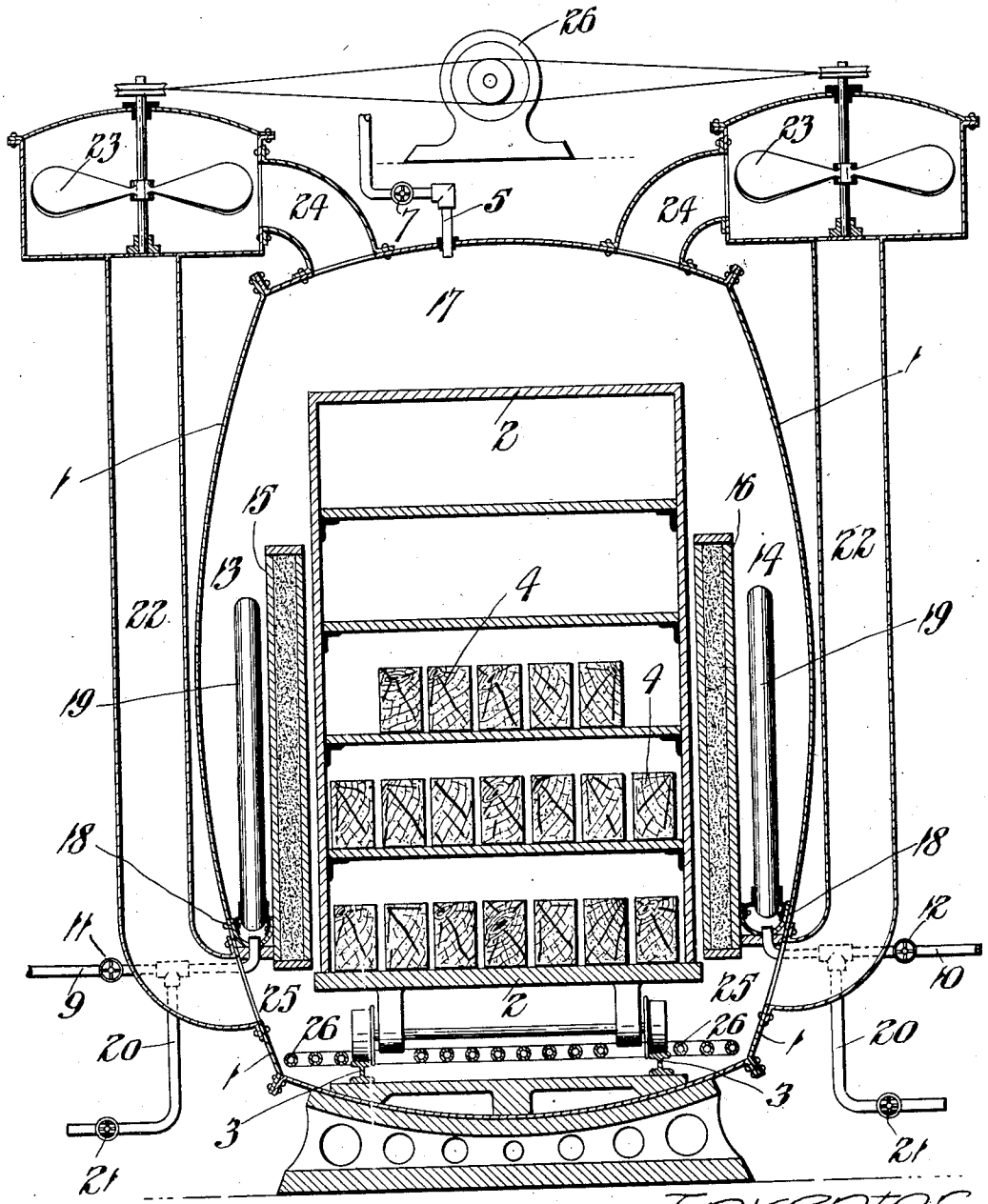
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PROCESS FOR THE TREATMENT OF TIMBER FOR THE DESTRUCTION OF THE BORER, LARVÆ, BEETLES, OR OTHER PEST

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PROCESS FOR THE TREATMENT OF TIMBER FOR THE DESTRUCTION OF THE BORER, LARVÆ, BEETLES, OR OTHER PEST.

Application filed January 30, 1925, Serial No. 5,819, and in Australia February 14, 1924.

This invention relates to an improved process and apparatus for the treatment of timber for the destruction of the borer, larvæ, beetles or other insect pest and has been devised in order to provide a cheap, simple and effective process and apparatus for accomplishing this object.

This invention is characterized in that the timber is placed in a drying or other kiln and is connected on the one side with vacuum apparatus and on the other side by suitable pipe connections with a container or retort containing a destructive gas or liquid arranged at either atmospheric or higher pressure, a control cock being disposed between the two containers.

Further essential features embodied in the invention consist in the means employed for circulating or agitating the rarefied atmosphere or destroying fumes in the kiln and also in the cooling sections or portions of the kiln which removes condensed moisture from the kiln.

In order that the invention may be more readily understood it will now be described with reference to the accompanying drawing in which Figure 1 is a diagrammatic view of the plant, the kiln being shown in vertical central section.

According to this invention a container or kiln 1 is provided for the reception of wood and is suitably sealed being preferably sufficiently large to receive trucks 2 running on rails 3 which support the timber 4 to be treated. A pipe connection 5 leads from this kiln 1 to a second container or retort not shown within which a destructible gas or liquid is retained or manufactured suitable for poisoning or destroying wood insects or pests.

A control cock 7 is arranged in the pipe 5 between the kiln 1 and container and the destructible gas or liquid is maintained at atmospheric or higher pressure and may if desired be submitted to any suitable temperature if such is necessary according to the gas or liquid employed. Preferably tobacco fumes are employed but any suitable destructive fume is used.

A vacuum pump or producer is connected by pipes 9, 10 and are fitted with control valves 11, 12. These pipes 9, 10 lead from respective sides 13, 14 of the kiln 1 which form cooling spaces being partly separated from the timber space in the kiln 1 by walls 15, 16 of non-conducting material which isolate the cooler zones 13, 14 from the drying chamber 17.

In the cooler zones 13, 14 is disposed a channel 18 supporting a plate 19 on which the moisture in the kiln 1 condenses and the condensation is run off by the pipes 20 to which the pipes 9, 10 leading to the vacuum pump, not shown, are connected, the pipes 20 being fitted with a delivery valve 21 as illustrated.

Thus the vacuum pump is connected to the cooling sides 13, 14 of the kiln 1 and the draught is always towards these cooling sides.

In order to circulate the fumes given off in the kiln on each side thereof and at the top are branch pipes 22 leading to a fan 23 which circulates the fumes or rarefied air through the pipe 24 to the bottom 25 of the kiln 1, the fans 23 being driven in any suitable manner but preferably from a motor 26 as illustrated.

Heat is imparted to the kiln 1 preferably by steam coils 26 fed from an adjacent boiler.

In the process and operation the valves are closed, the heat is applied and the vacuum exhausts the moisture through the cooler zones 13, 14 and as soon as the drying is nearly completed the vacuum is cut out and the valves opened and the fans 23 operated to circulate the poisonous fumes from the retort or container through the pipe 5 to the kiln 1 and fills the kiln up with fumes equal to atmospheric pressure or the fumes may be forced in at any suitable pressure.

This continues until the timber is sufficiently treated to destroy the pests therein.

In a modification the process may be applicable to apparatus for drying timber under vacuum in which case in lieu of an ordinary container for the wood a vacuum drying kiln is disposed so that the destroying liquid or gas is drawn through the timber during the vacuum drying process.

I desire it to be understood that various improvements and modifications may be embodied without departing from the spirit and scope of the invention.

What I claim as my invention and desire to secure by Letters Patent is:—

Process of destroying borer, larvæ, beetles and other pests in timber consisting in first subjecting the timber to vacuum in a kiln,

applying heat to the kiln, creating the draught and drying by means of a vacuum pump through cooler zones on each side of the kiln and partially isolated from the drying portion of the kiln by condenser plates, and when the timber is nearly dry cutting out the vacuum and feeding poisonous fumes to the kiln at atmospheric or higher pressure, and circulating the rarefied atmosphere or destroying fumes through the kiln by means of fans disposed on both sides of the kiln substantially as described.

Signed at Melbourne, Victoria, Australia, this 24th day of December 1924.

ADOLF MARTIN KOBIOLKE.