No. 892,298. PATENTED JUNE 30, 1908.

C. H. PALMER.

DRYING KILN.

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Fig. 1.

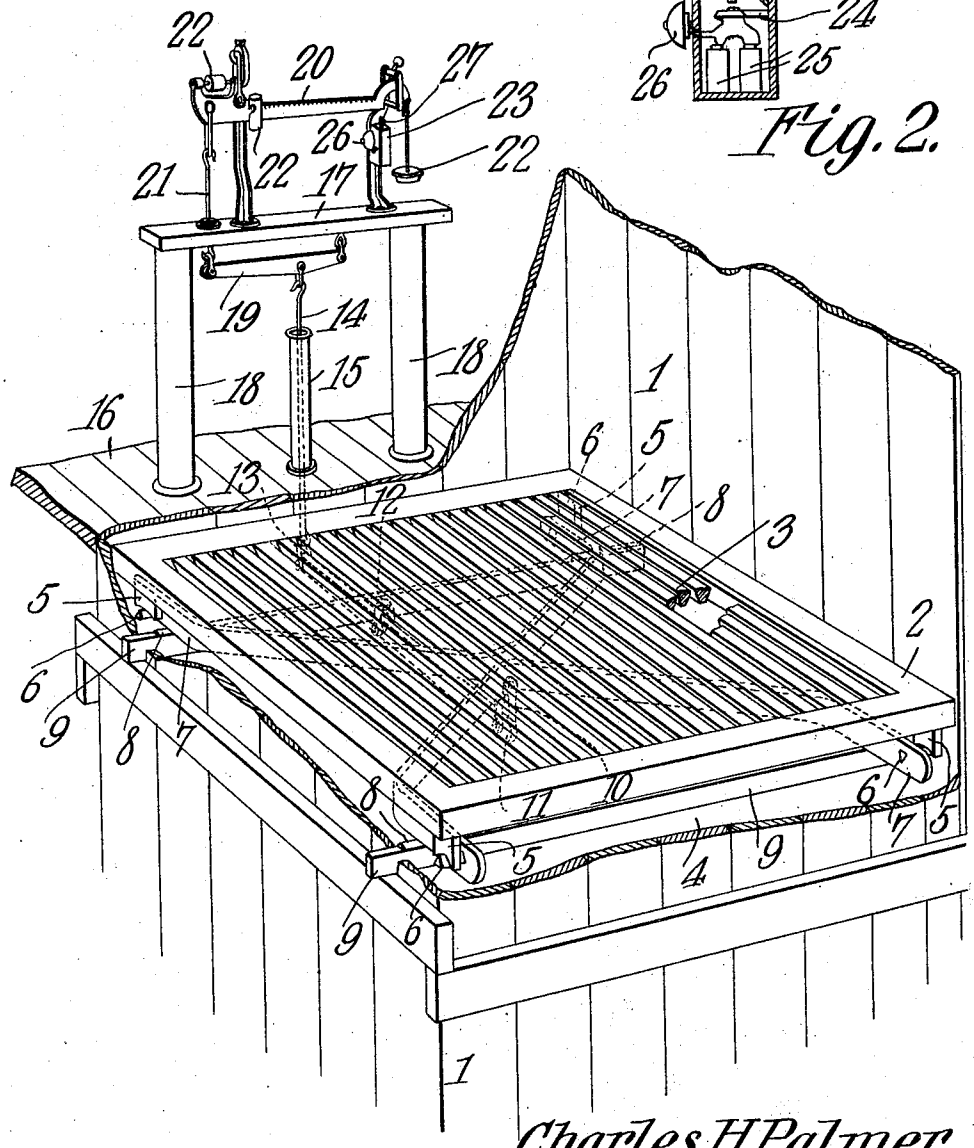


Fig. 2.

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CHARLES HIRAM PALMER, OF SODUS, NEW YORK.

DRYING-KILN.

No. 892,298. Specification of Letters Patent. Patented June 30, 1908.

Application filed March 9, 1907. Serial No. 361,515.

To all whom it may concern:

Be it known that I, CHARLES H. PALMER, a citizen of the United States, residing at Sodus, in the county of Wayne and State of New York, have invented a new and useful Drying-Kiln, of which the following is a specification.

This invention relates to drying kilns such as used for drying fruits. Heretofore in the use of devices of this character it has been impossible to accurately determine when the fruit has been reduced to a desired weight through evaporation and, as a result, it has been practically impossible to accurately produce quantities of dried fruit all of which represents the same weight per bushel of green fruit used.

The object of the present invention is to overcome this difficulty by providing means whereby a suitable alarm or indicator will be actuated when the contents of the apparatus are reduced to a predetermined weight by evaporation.

Another object is to provide simple controlling means of this character which can be readily regulated or adjusted to cause the actuation of the alarm or indicator when any desired weight is reached.

With these and other objects in view the invention consists of certain novel features of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings: Figure 1 is a perspective view of the apparatus, the walls of the drying room being broken away and a portion of the floor shown in section; and Fig. 2 is an enlarged section through the alarm.

Referring to the figures by characters of reference, 1 is a drying compartment of any suitable size and proportions and the floor of this compartment consists of a frame 2 surrounding and connected to a grating 3 made up of a plurality of spaced bars through which the drying medium is adapted to pass from the compartment 4 below the drying compartment 1. Depending from the corners of the floor frame 1 are ears 5 which rest upon angular lugs 6 extending laterally from the ends of oppositely disposed yokes 7. These yokes bear, near their ends, upon knife edges 8 formed upon a supporting strip 9 extending transversely beneath the frame 2 and suitably supported by the walls of the kiln. The adjoining portions of the yokes 7 are loosely engaged by a link 10 which is suspended therefrom and is pivotally connected to one end of a beam 11. This beam is fulcrumed within a yoke 12 depending from one of the cross strips 9 and one end of the beam is connected by a link 13 with a rod 14. Beam 11 extends beyond the floor of the drying compartment so that the rod 14 extending upward therefrom can pass through a tubular upright 15 arranged upon a floor or platform 16 outside of the drying compartment. A cross strip 17 is supported above the platform 16 by standards 18 and supported below this strip is a lever 19 engaged by the rod 14. A scale beam 20 is fulcrumed above the strip 17 and is suitably connected to lever 19 as by means of a rod 21. The scale beam may be of any preferred construction and arrangement and is provided with adjustable weights 22.

A casing 23 is supported below the scale beam and located therein is a push button 24 designed when depressed, to close a circuit from batteries 25 to a bell 26. A spring supported plunger 27 is mounted in the upper portion of the casing and directly below the scale beam so that each time said beam moves downward it will force the plunger downward against the push button and result in the sounding of the bell.

The operation of the apparatus is as follows: A desired quantity of apples or other fruit to be dried is placed upon the floor of compartment 1 and by adjusting the weights upon the scales the weight of the fruit can be readily determined. If it is desired to reduce the weight of the fruit by evaporation to two hundred pounds the weights are adjusted upon the scale beam until two hundred pounds is indicated. At the beginning of the drying operation the scale beam will of course be overbalanced by the material upon the kiln floor. As the evaporating process is carried on, however, the weight of this material gradually diminishes until finally the weighted scale beam overbalances it and moves downward against the plunger 27. The alarm will therefore be sounded and the contents of the kiln can be removed. By providing apparatus such as described the kiln can be charged a number of times and the product removed after each drying operation will be of the same grade.

Although scales of a particular construction have been shown and described it is to be

understood that any suitable weighing mechanism may be utilized it only being necessary to provide means whereby a movable member will be actuated when material within the kiln is reduced to a predetermined weight.

What is claimed is:

The combination with a fixed structure having superposed compartments therein, and a floor extending beyond said structure; of a movably supported grating within the receptacle and constituting the floor of the upper compartment, said grating and the first mentioned floor being disposed in substantially the same plane, the superposed compartments communicating through the grating, standards upon the floor and outside of the compartments, a scale beam supported thereby and outside of the compartments, means for transmitting motion from the scale beam to raise the grating, and a weight connected with the scale beam and adjustable thereon to overbalance and actuate the beam, said lower compartment constituting means for directing air through the grating and into the upper compartment.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

CHARLES HIRAM PALMER.

Witnesses:

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