

L. S. CHICHESTER.

Grain Drier.

No. 41,905.

Patented March 15, 1864.

Fig. 1.

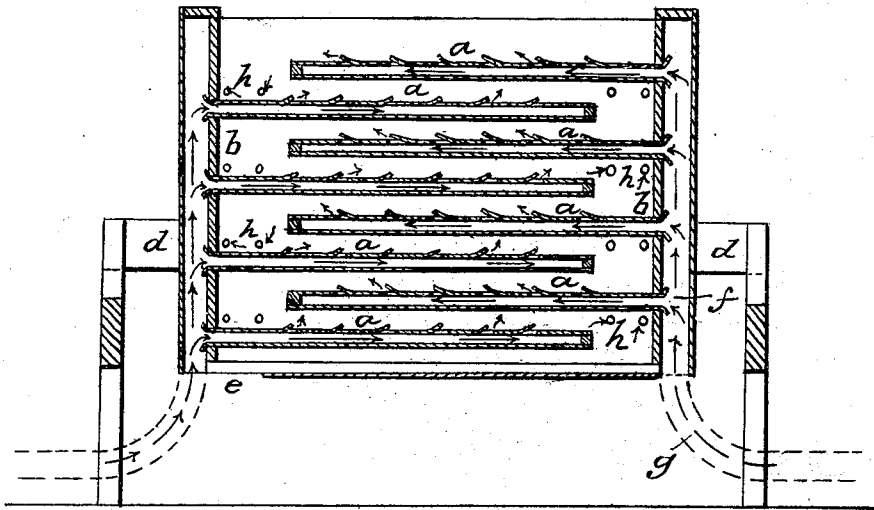
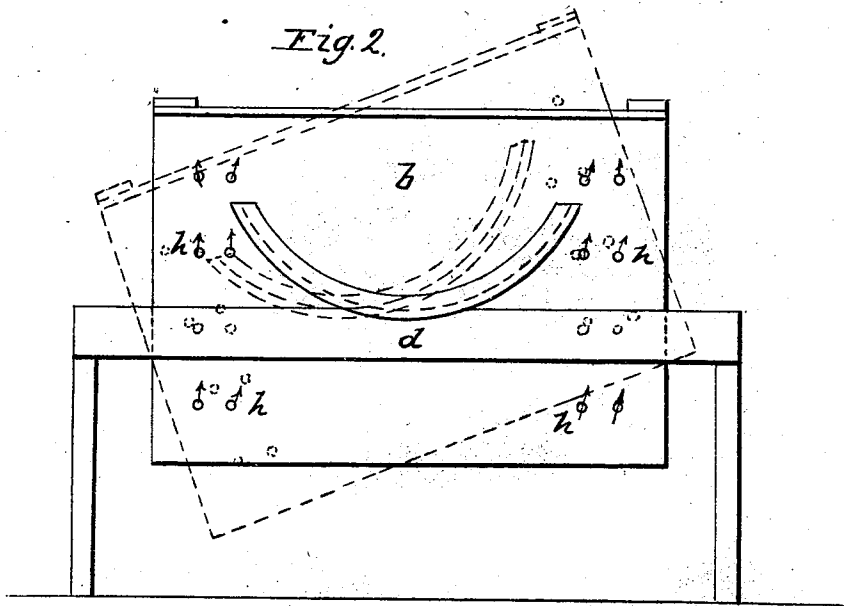


Fig. 2.



Witnesses:
Lamuel W. Penell
Thos. G. Harold

Inventor:
Lewis S. Chichester

UNITED STATES PATENT OFFICE.

I LEWIS S. CHICHESTER, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN GRAIN-DRIERS.

Specification forming part of Letters Patent No. 41,905, dated March 15, 1864.

To all whom it may concern:

Be it known that I, LEWIS S. CHICHESTER, of Brooklyn, in the county of Kings and State of New York, have invented, made, and applied to use a certain new and useful Improvement in Means for Cooling Grain; and I do hereby declare the following to be a full, clear, and exact description of my said invention, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1 is a vertical section of said grain-cooler, and Fig. 2 is a side elevation of the same.

Similar letters denote the same parts.

Grain after it has been dried by heat requires to be cooled previous to being stored in bulk or transported, otherwise the continuance of the heat in the mass would injure the grain.

My present invention is especially adapted to the cooling of the grain after it has been dried; but by the introduction of heated air instead of air at the ordinary temperature such apparatus might itself be employed as a drier for grain.

The nature of my said invention consists in a series of tables placed one above the other, and fitted in such a manner as to be rocked to give the tables inclination alternately for passing the grain from end to end of the tables and off the end of one table upon the surface of the table next below, by which means the grain is caused to travel over a large extent of surface and be exposed to the air. At the same time but a small space is occupied by the apparatus and but little power is required for rocking the same; and I form my tables hollow, with slots in them beneath overhanging lips, and cause the current of air to pass out of such slots, whereby a supply of air is directed immediately upon the grain passing over such tables, and the passage of the grain into the slots is prevented by said lips.

In the drawings, *a a* are a series of parallel tables contained within a casing, *b*, and starting from opposite ends of the casing, so that passage-ways are left at the alternate ends for the grain from one table to fall off the end of that table upon the surface of the table below.

I support my drier upon rockers. I have

shown the same, as applied at *c*, on the sides as being in a position where the rocking will not require the exercise of so much power as if said rockers were placed in other positions.

The rockers are supported on ways *d d*, and, to prevent said rockers sliding, they may be provided with cog-teeth, taking corresponding teeth on the ways.

The power may be applied by a connecting-rod or other device, so as to communicate the necessary amount of motion and rock the apparatus to produce the inclination necessary for causing the grain to run along over the tables and off at the lower ends upon the tables next below, which in turn convey the grain to the other end of the apparatus upon the reverse rocking movement taking place.

The grain is to be delivered upon the upper table from a flexible chute or spout, or it may be supplied from a spout opened by mechanism when the apparatus has rocked into a position for the reception of the grain, after which said spout may be again closed by any suitable cut-off. The grain is finally delivered at the opening *e*.

Each table is formed hollow, and communicating at the respective ends with the air-passages *f f*, and the metallic surfaces of the tables are formed with slots and the sheet metal raised up, as shown, to form lips in order that the grain may slide over such slot as it runs down the tables.

To the air-passages *f f* flexible tubes are connected, as at the red lines *g g*; or any other means may be employed for conveying the air into said passages *f f*, whence it passes into the hollow tables *a a* and blows out at the slots directly upon the grain passing over such tables; and *h h* are openings in the case for the escape of the air.

It will be seen that this apparatus has only one-half of the tables occupied by the grain at one time, thus leaving the alternate tables to be more thoroughly cooled or heated by the air after each passage of the grain over them.

The tables *a a*, instead of being flat, might be the arc of a circle, and the grain would pass over such curved tables by the rocking of them in a similar manner and with similar results to the flat tables.

The apparatus being placed on rockers, al-

lows of the given motion by the exercise of less power and motion than would be required if placed on centers; but it will be evident that said apparatus might be hung by and rocked upon centers or gudgeons.

What I claim, and desire to secure by Letters Patent, is—

1. A series of parallel or nearly parallel tables, in combination with a rocker, whereby the grain is passed alternately from end to end over such tables in consequence of the rocking movement, substantially as specified.

2. The metallic tables formed with mortises and overhanging lips, as and for the purposes specified.

3. The arrangement of the tables *a a* and air-passages *f f*, for the purposes and as specified.

In witness whereof I have hereunto set my signature this 22d day of October, A. D. 1863.

LEWIS S. CHICHESTER.

Witnesses:

LEMUEL W. SERRELL,
THOS. GEO. HAROLD.