

(No Model.)

2 Sheets—Sheet 1.

J. V. CURLIN.
GRAIN DRIER.

No. 448,132.

Patented Mar. 10, 1891.

Fig. 1

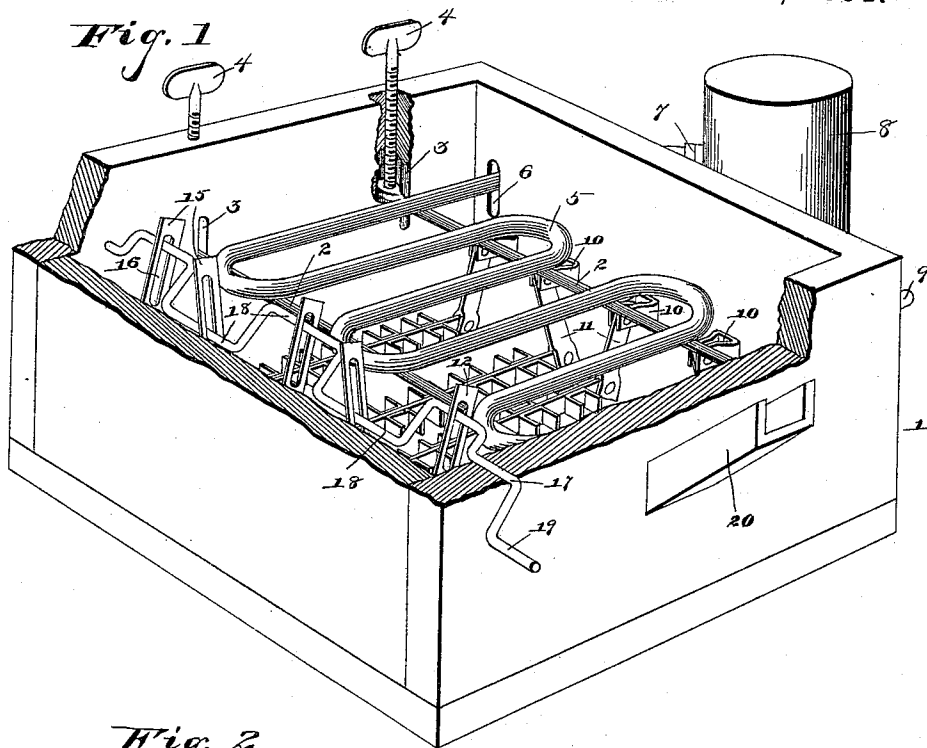
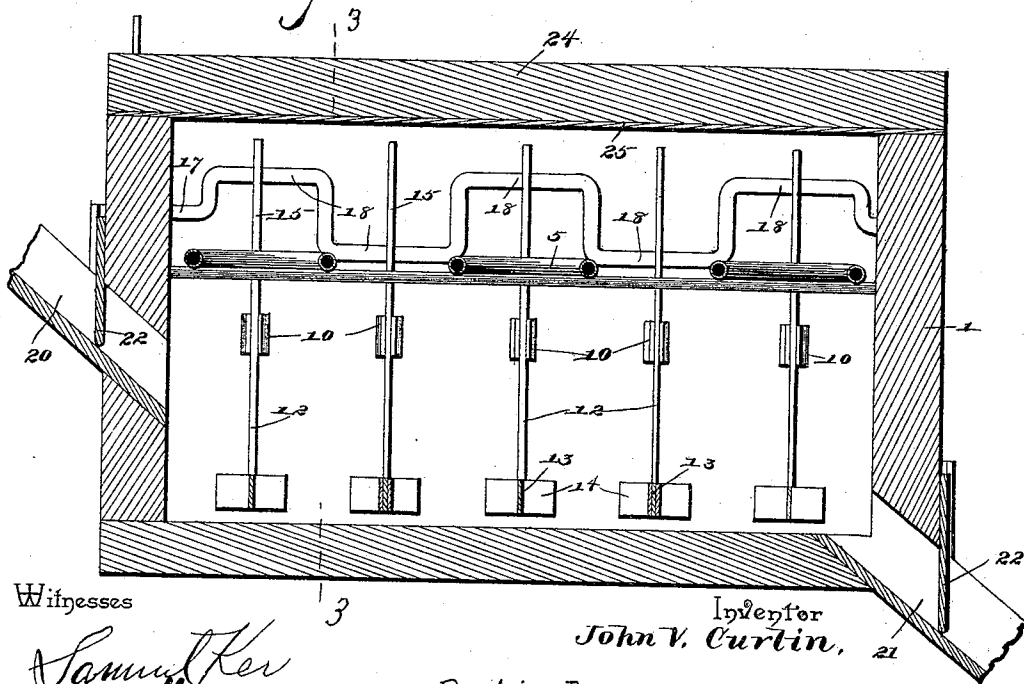


Fig. 2.



Witnesses

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By *his* Attorneys,

C. A. Snow & Co.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

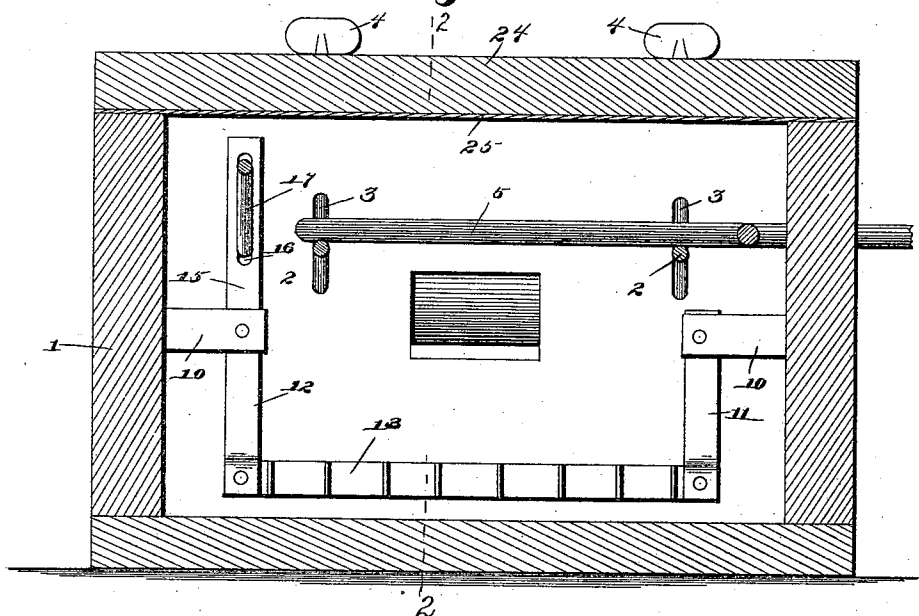
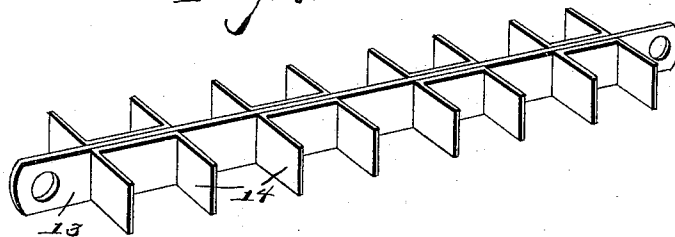


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN V. CURLIN, OF EDITH, TENNESSEE.

GRAIN-DRIER.

SPECIFICATION forming part of Letters Patent No. 448,132, dated March 10, 1891.

Application filed July 26, 1890. Serial No. 360,056. (No model.)

To all whom it may concern:

Be it known that I, JOHN V. CURLIN, a citizen of the United States, residing at Edith, in the county of Lauderdale and State of Tennessee, have invented a new and useful Grain-Drier, of which the following is a specification.

This invention relates to grain-driers; and it has for its object to construct a device of this class which shall be simple, easily operated, and which shall be adapted especially for ordinary farm use on a comparatively small scale in contradistinction to the larger and more complicated driers which are usually employed in mills and elevators.

My invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective showing a grain-drier embodying my improvements with the top or cover removed to expose the interior construction. Fig. 2 is a longitudinal part sectional view taken on line 2 2 in Fig. 3. Fig. 3 is a vertical transverse section taken on the line 3 3 in Fig. 2. Fig. 4 is a detail view of one of the reciprocating stirring devices.

Like numerals of reference indicate like parts in all the figures.

1 designates a box or bin, which constitutes the casing of my improved drier. Said bin, which may be of any suitable dimensions, is preferably rectangular in shape, and it is provided with longitudinal supporting-rods 2 2, which are mounted vertically adjustably in sockets or mortises 3 in the inner sides of the ends of the bin. For the vertical adjustment of said supporting-rods I may avail myself of adjusting-screws, such as shown at 4 in the drawings, or any other suitable means.

The longitudinal rods 2 2 serve to support a steam-coil 5, consisting of a pipe or series of pipes coiled or joined, substantially as will be seen in Fig. 1 of the drawings. The ends of the steam-pipe 5 are extended through one of the sides of the bin, which is provided with vertical slots 6 to admit of the passage and vertical adjustment of said steam-coil to correspond with any vertical adjustment of the supporting-rods 2. One end of the pipe 5 is connected by the flexible couplings 7 of any

suitable construction with a steam-generator 8, and its opposite end is open to an exhaust 9, so that a constant flow of steam through the said heating-coil may take place. Cocks or valves are provided at suitable points for the purpose of regulating the flow of steam through the pipe.

The sides of the bin 1 are provided each with a series of interiorly-located U-shaped brackets 10, to which are pivoted the levers, which are designated, respectively, by 11 and 12. The lower ends of the levers 11 and 12 are connected by pivoted bars 13, to the sides of which are secured the U-shaped stirrers or agitators 14. The rods or levers 12 are extended upwardly to form arms 15, provided near their upper ends with slots 16. 17 is a shaft having a series of cranks 18, that work in the slots 16 of the arms 15. The ends of the shaft 17 are journaled in the ends of the box or bin 1, and one or both of the ends of said shaft may be provided with handles or cranks 19, by means of which it may be conveniently manipulated.

The box or bin is provided near one end with a chute 20, through which grain may be supplied thereto, and near its other end it has a spout 21 for the escape of the grain after being subjected to the drying operation. Doors or slides 22 of suitable construction are also provided to close the openings adjacent to the feed and escape chute and spout.

The lid or cover of the bin, which is designated by 24, may be hinged or removably attached thereto, in order to afford convenient access to the interior. Under the said lid is arranged a reflector 25, of tin or bright sheet metal, for the purpose of reflecting the heat from the steam-coil upon the grain in the bottom of the bin.

The operation of this invention will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed. The grain having been supplied to the bin, steam is permitted to pass through the coil 5, and a rotary motion is imparted by hand or otherwise to the shaft 17, the cranks or wrists 18 of which will thus communicate a reciprocating motion to the levers 12, connecting-rods 13, and supporting-rods 11, thus thoroughly agitating the contents of the bin and causing every portion thereof to be

equally subjected to the action of the heat radiated from the steam-pipe 5. After the grain has been sufficiently dried it is removed through the spout 21, and the operation may then be repeated.

5 I desire it to be understood that I do not limit myself to the exact construction and arrangements of parts herein shown and described, but reserve the privilege of making
10 any such changes and modifications as may be resorted to without departing from the spirit of my invention.

15 It will be observed that by making the supporting-rods 2 vertically adjustable, as herein described, the steam-heating pipe may be raised or lowered, according to the quantity of grain contained in the bin and to the degree of heat to which it is desired to be subjected.

20 Having thus described my invention, I claim—

1. In a grain-drier, the combination of the bin, the brackets secured to the sides of the latter, the supporting-rods pivoted to said
25 brackets, the rods at one side being provided with upwardly-extending arms, the operating-shaft having cranks working in slots at the

upper ends of said arms, the pivoted bars connecting the lower ends of the supporting-rods and having U-shaped stirrers or agitators, and a steam-pipe mounted upon suitable supports within the bin, substantially as set forth. 30

2. In a grain-drier, the combination of the bin having a feed-chute and an escape-spout
35 provided with suitable doors, the vertically-adjustable supporting-rods mounted in said bin, the steam-pipe mounted upon said rods and having its ends extended through vertical slots in the side of the bin, flexible couplings connecting the ends of said pipe with a
40 steam generator and exhaust, the stirring or agitating devices in the bin, and a reflector arranged between the lid or cover and the steam-pipe, substantially as and for the purpose set forth. 45

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

J. V. CURLIN.

Witnesses:

S. D. BELOATE,
BLAIR PIERSON.