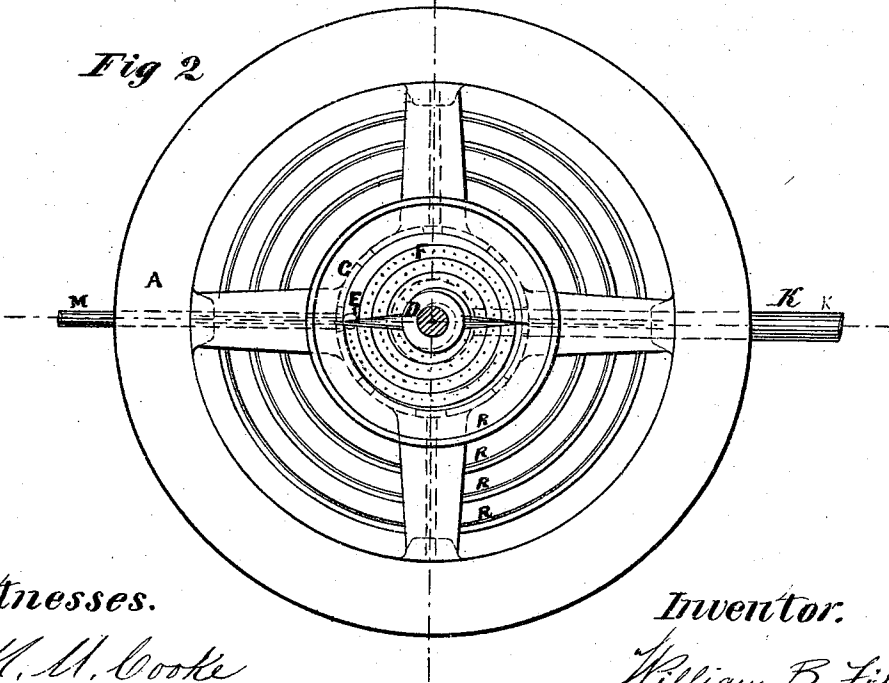
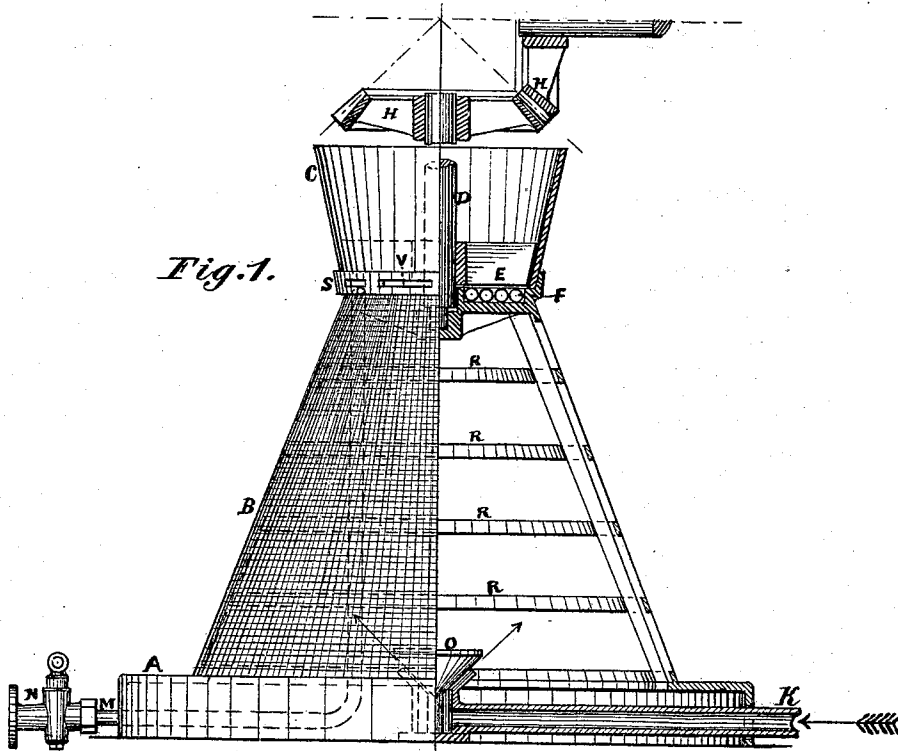


W. B. FISHER.  
 Improvement in Grain-Steaming Apparatus.  
 No. 129,544. Patented July 16, 1872.



*Witnesses.*

*M. M. Cooke*  
*E. A. Eagles*

*Inventor.*

*William B. Fisher*  
*per J. M. Dore, Jr. Atty*

# UNITED STATES PATENT OFFICE.

WILLIAM B. FISHER, OF NEWARK, NEW JERSEY.

## IMPROVEMENT IN GRAIN-STEAMING APPARATUS.

Specification forming part of Letters Patent No. 129,544, dated July 16, 1872.

*To all whom it may concern:*

Be it known that I, WILLIAM B. FISHER, of Newark, county of Essex, in the State of New Jersey, have invented new and useful Improvements in Devices for Treating Seeds and Grains by Steam; and I do hereby declare that the following specification, taken in connection with the drawing furnished, is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same.

My invention consists in a combination of steam-coils provided with numerous small holes and arranged to form the bottom of an elevated box or hopper, which is placed above a conical wire screen, inside of which blasts of cold air are thrown for the purpose of cooling seeds and grain which have been previously treated by the direct application of steam through the small holes of the coil for the purpose of purifying and drying the same, being agitated and stirred by propeller-shaped scrapers, and by them thrown through holes at the base of the hopper, passing down over the inclined sides of the screen to be conveyed away by any convenient means.

Referring to the drawing, Figure 1 represents my invention with a portion of the sides removed, exhibiting portions of the steam-coils and frame to which the screen is attached; also the air-pipe and device to spread the blast of air. Fig. 2 represents a top view of the same.

A is a base of any suitable material to support the conical screen B. R R R R are rims forming a frame for strengthening the screen; C, a hopper of wood or metal for receiving the seed, grain, or meal; D, a section of a shaft, to which are attached propeller-shaped agitators or scrapers; F, a steam-coil, provided with small holes, more clearly shown in Fig. 2; H H, gears, through which power is applied to shaft D; K, a pipe through which a blast of air is conveyed for cooling the seed, grain, or meal as it passes over the inclined sides of the screen. O is an appliance placed over the expanded mouth of the pipe K to spread the blast of air around the inside of

the screen. (See Fig. 1.) M is a steam-pipe connecting with the coil F, through which steam is conveyed, and which is regulated by a stop-cock, N. S is a suitable rim or frame, forming a base, resting on the top of the screen B, and supporting the steam-coil, hopper, and journal for the shaft D. V are ports for the discharged seed, grain, or meal.

The base, screen, hopper, gearing, &c., may be made of any suitable materials, preferring, generally, the use of metal, although the base and hopper, with portions of the frame-work supporting the screen, may be made of wood, if desirable.

For convenience I have exhibited my invention in a round form, yet I am enabled to accomplish the same result if the base, screen, and other parts of my apparatus should be square or in other forms, or even to discharge the seed, grain, or meal through one or more ports over an inclined one-sided screen. My object is to apply the steam directly through or under the body of grain or seed for the purpose of thoroughly permeating the same, to sufficiently treat, clean, and dry, and then pass the same over a screen, from the inside of which escapes a blast of air, thoroughly drying as well as cooling the seed, grain, or meal, which may be conveyed from its base by elevators or other suitable means, where it may be in readiness for packing or storing.

I would remark that a metallic chamber perforated with small holes would serve the same purpose as the steam-coil, the seed, grain, or meal being fed upon the same by any convenient means. Steam may be generated in boilers in the usual manner and conducted through pipes M to the coil. The air-blast may be furnished by blowers or other suitable means connected to the pipe K.

Having thus described my invention, I do not claim as new a perforated steam-coil irrespective of its combinations or arrangement, as in my former application I claim feeding seed over the inclined surface of a perforated conical steam-coil; but

I claim as new and desire to secure by Letters Patent of the United States—

The combination of a box or hopper, C, with a perforated steam-coil, F, forming its bottom, stirrers E E, shaft D, outlet V, screen B, blast-pipe K, as an improved apparatus for treating seeds or meal, substantially as herein described.

In testimony whereof I have this, the 7th

day of May, A. D. 1872, subscribed my name to the foregoing specifications before two subscribing witnesses.

W. B. FISHER. [L. S.]

Witnesses:

JOHN DANE, Jr.,  
MANUEL M. COOKE.