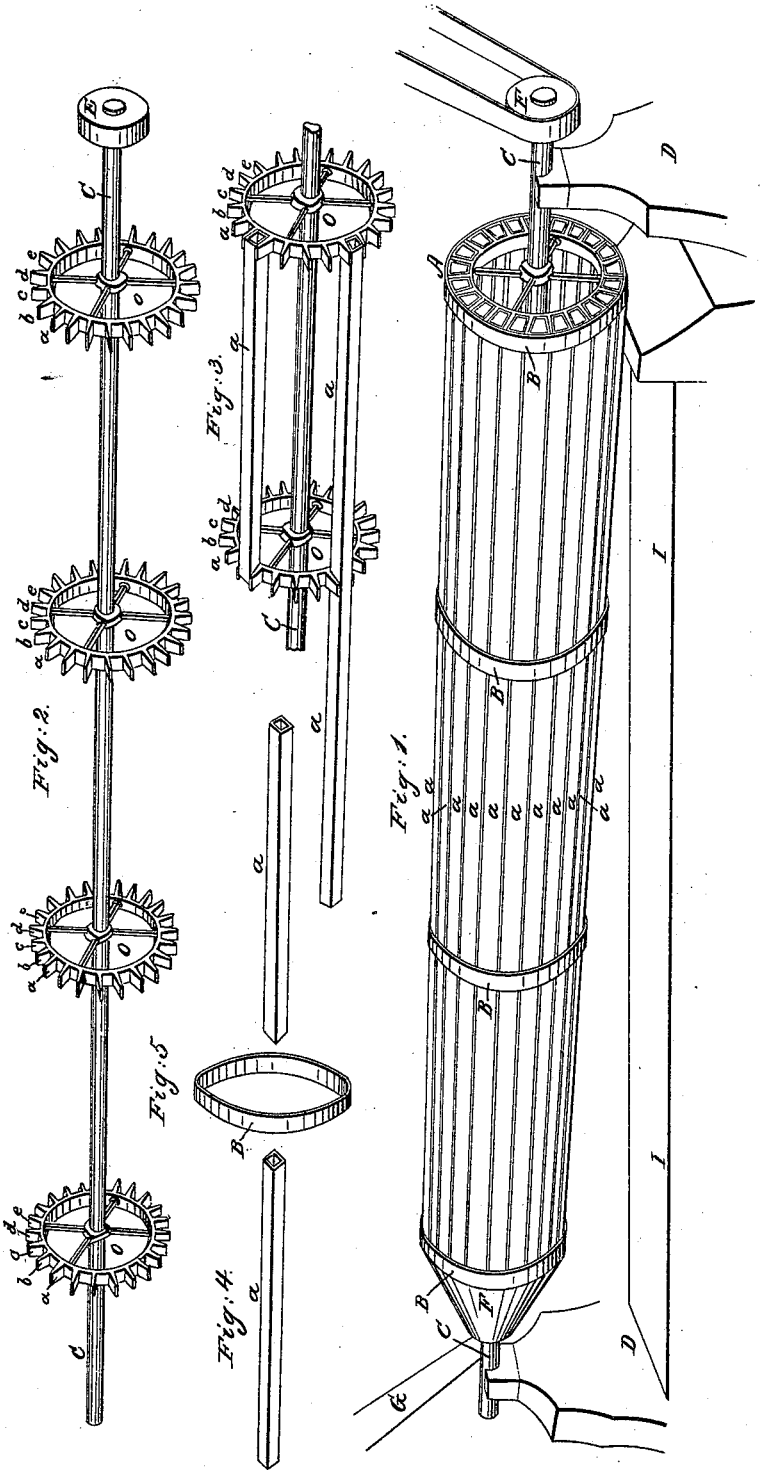
J. H. TOWER.

Grain Drier.

No. 5,638. Patented June 20, 1848.



UNITED STATES PATENT OFFICE.

JOHN H. TOWER, OF KIRKLAND, NEW YORK.

KILN FOR DRYING GRAIN.

Specification of Letters Patent No. 5,638, dated June 20, 1848.

To all whom it may concern:

Be it known that I, JOHN H. TOWER, of Kirkland, in the county of Oneida and State of New York, have invented a new and Improved Mode of Kiln-Drying Grain, and Particularly Indian Corn; and I do hereby declare that the following is a full and exact description thereof.

The nature of my invention consists in passing the grain in a peculiar manner through a revolving and heated cylinder Fig. 1, A, composed of separate square apartments or tubes A, A, A, made of sheet iron fourteen feet long.

The frame work consists of an iron shaft, Fig. 2, C, C, one and a half inches in diameter resting on its bearings, Fig. 1, D, D, forming the axle of and passing through four cast iron wheels, Fig. 2, O, O, O, O, placed thereon at equal distances from each other, thirteen inches in diameter, having projections, *a*, *b*, *c*, *d*, *e*, on their outer edges one quarter of an inch thick, one inch wide and two inches from each other, and between which projections the sheet iron tubes are placed, Fig. 3, A, A, and are thus kept one quarter of an inch apart. The tubes are confined to these wheels by bands of hoop iron, Fig. 1, B, and Fig. 5, B.

The feeding end is made of sheet iron, Fig. 1, F, in a proper form to receive a spout G, passing from A hopper which contains the undried grain and feeds the same like a common bolt in a mill. This feeding end F, is elevated one inch for each foot in length of the cylinder and the grain after passing through the cylinder falls into a hopper H.

The cylinder, Fig. 1, A, A, is placed within a brick arch of which I, I, is the base of sufficient size to contain a common box stove and about forty feet of stovepipe, the stove being at one end and directly under the cylinder. The motive power is applied to the cylinder by a band from the machinery of the mill passing over the pulley, Fig. 1, F. The cylinder should have about twenty revolutions to the minute and with that velocity the grain will remain in the tubes about six minutes. The time can be regulated in two ways by the velocity and by the pitch and should be greater or less according to the dampness of the grain. A cylinder of the dimensions above described will dry from ten to fifteen bushels per hour, the quantity depending upon the dampness above mentioned. The principle is such, that the cylinder may be made of any size required, or several may be inclosed in one kiln.

It is necessary in order to have the grain properly and thoroughly dried that each kenel of it should come into contact with the heated sheet iron tubes and this is rendered practicable by the large amount of surface on the inside of each tube to which the comparatively small quantity of grain which is in it at any one time, is exposed.

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

The method as above described of constructing the grain-drier; that is to say, arranging a series of tubes similar to those described, in a cylindrical form, to be operated by a revolving shaft in the manner hereinbefore described.

JOHN H. TOWER.

Witnesses:

O. WILLIAMS,

J. E. CLARK,