

T. C. Vice.
Grain Dryer.

N^o 37,467.

Patented Jan. 20, 1863.

Fig. 1.

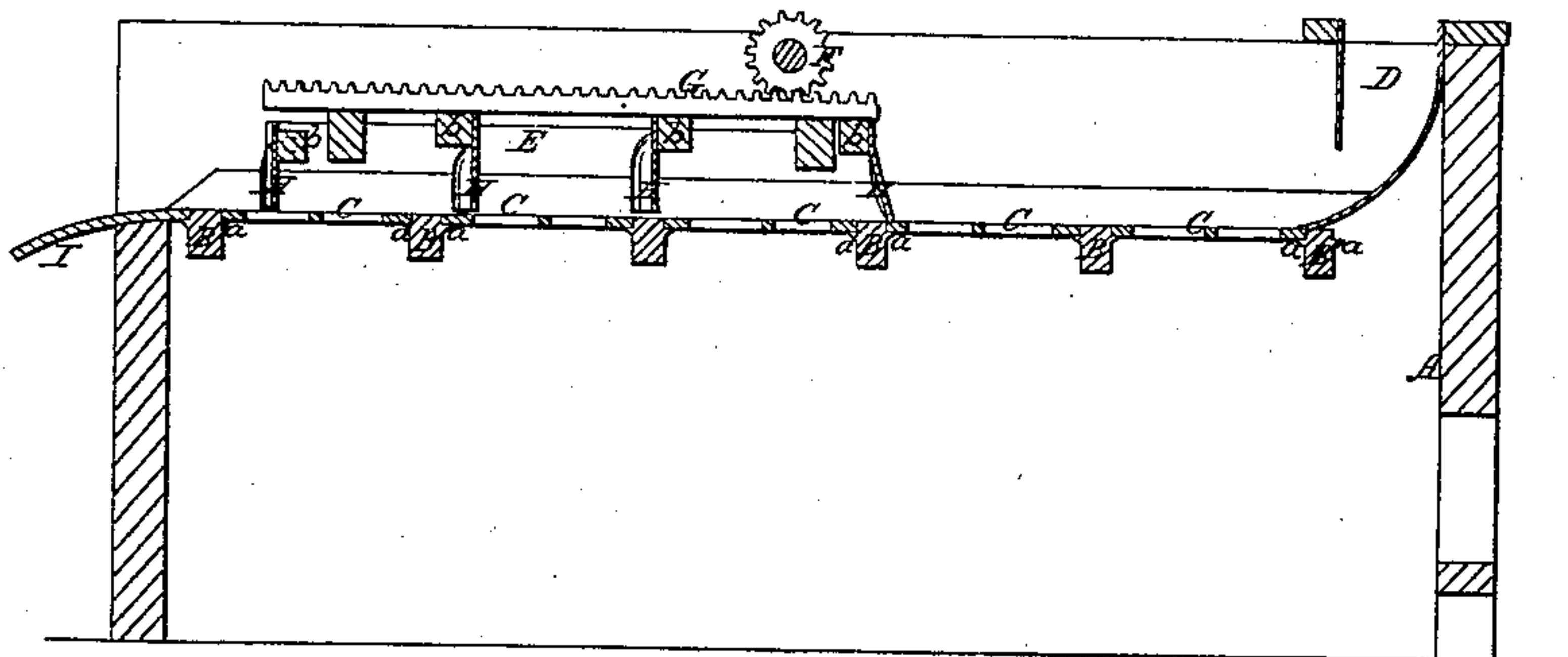


Fig. 2.

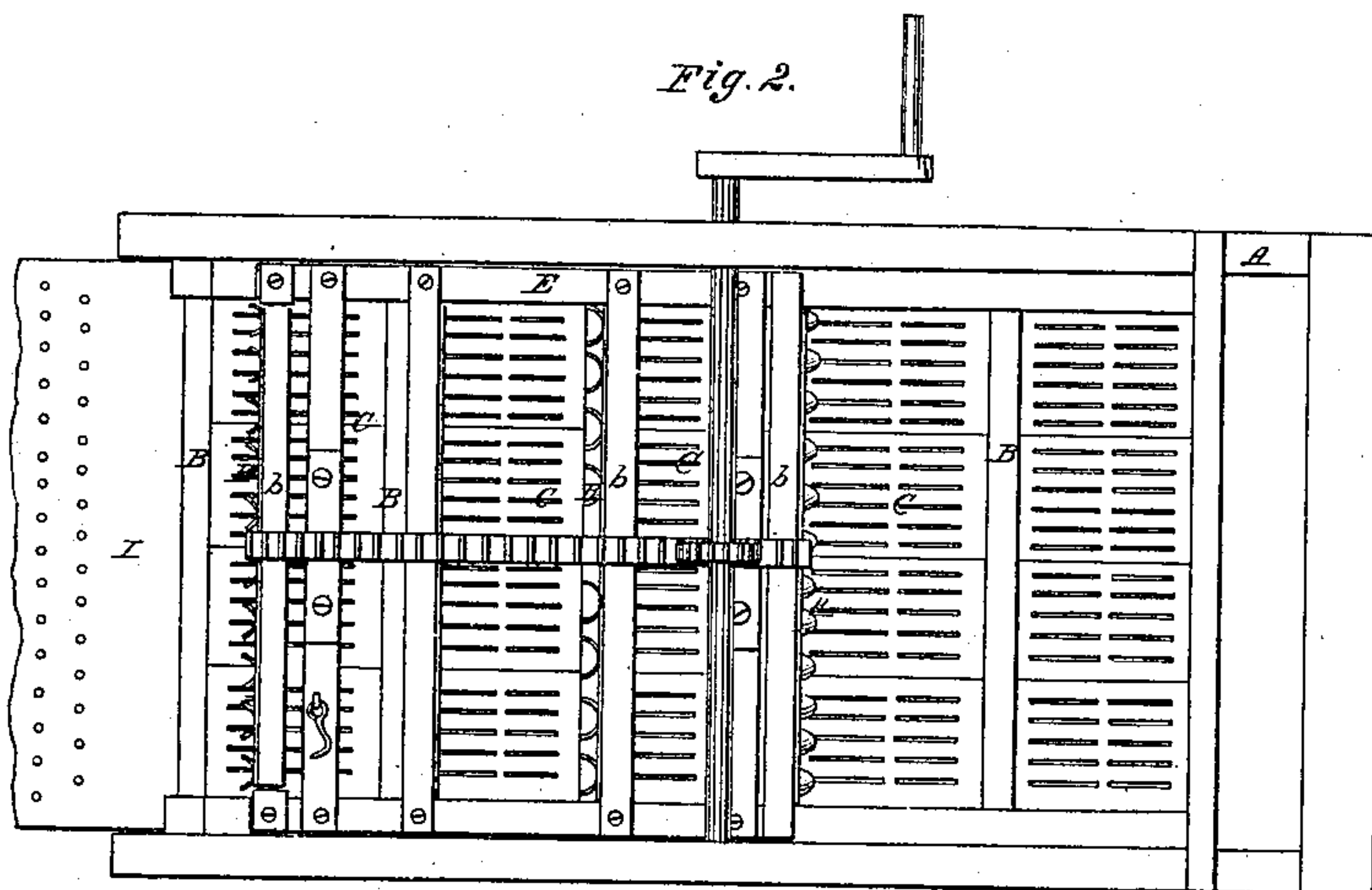
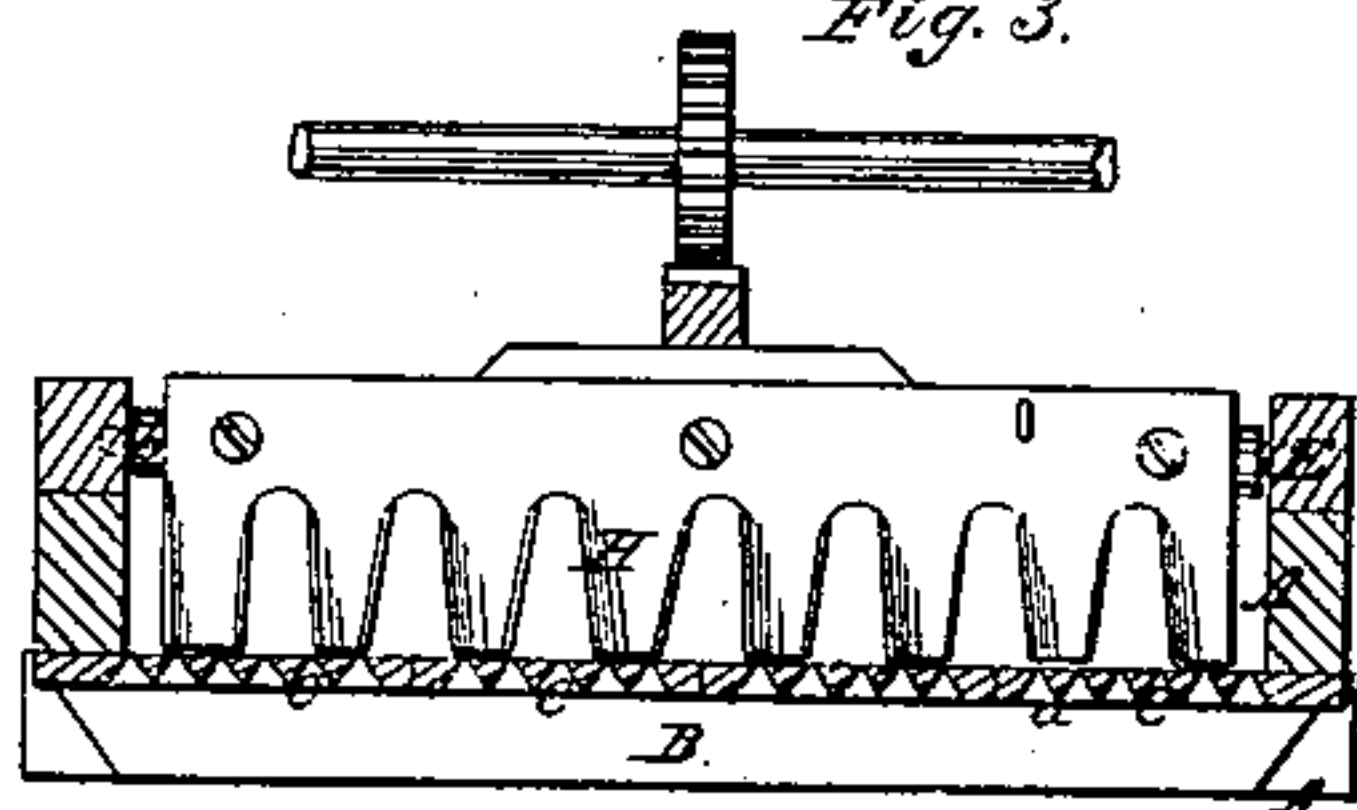


Fig. 3.



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THOMAS C. VICE, OF NEW HAVEN, CONNECTICUT.

IMPROVEMENT IN APPARATUS FOR STIRRING AND DRYING GRAIN.

Specification forming part of Letters Patent No. 37,467, dated January 20, 1863.

To all whom it may concern:

Be it known that I, THOMAS C. VICE, of New Haven, in the county of New Haven and State of Connecticut, have invented a new and Improved Apparatus for Drying and Stirring Grain; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a longitudinal vertical section of my invention. Fig. 2 is a plan or top view of the same. Fig. 3 is a transverse vertical section of the same.

Similar letters of reference indicate corresponding parts in the three views.

This invention consists in the arrangement of ledges or lugs projecting from the sides of the cast-iron beams, which support cast-iron tiles, to operate in combination with said tiles in such a manner that they form a support of the same, leaving the upper surface of the beams flush with the upper surface of the tiles, and that by the action of the tiles the beams are prevented from springing, and a cheap and durable platform is produced.

It consists, also, in the arrangement of semi-circular scoops, either rigid or adjustable, and moving with their concave side toward that end of the platform over which the grain is to be discharged, in combination with a reciprocating carriage, in such a manner that said scoops in going forward stir and move the grain along toward the discharging end of the platform, and in going back the convex sides of said scoops in passing through the grain divert the same laterally and stir it without producing a backward motion of the same.

To enable those skilled in the art to make and use my invention, I will proceed to describe it with reference to the drawings.

A represents a kiln, built of brick or other suitable material, and provided with cross-beams B, which support the tiles C. The beams B are made of cast-iron or other suitable material, and they are provided with ledges or lugs *a* to support the tiles, as clearly shown in Figs. 1 and 3 of the drawings. The tiles are also made of cast-iron or other suitable material, and their thickness is such that their upper surface is flush with the upper surface of the beams when they (the tiles) are

placed on the lugs *a*. Said tiles are provided with narrow slots, to admit the heated air from below, without, however, allowing the grain to drop through, and when placed on the beams they form a platform to which the grain is admitted through the hopper D.

In ordinary devices for drying grain the platform is made of perforated sheet metal, which is secured to the top surface of the beams by means of rivets or screws, requiring much expense in construction and much labor in putting down; and, furthermore, the beams are liable to spring or warp by the action of the heat, and the platform becomes uneven and rugged, or cast-iron tiles are used and placed loosely on the top of the beams, and in this case they are liable to become dislocated during the operation of stirring and moving the grain. These difficulties I have obviated by placing the tiles on the ledges *a*. The beams B are thereby prevented from springing in a lateral direction, and the evenness of the platform is preserved, and the cast-iron tiles are securely held in their places. The grain on the platform is stirred by the action of a reciprocating carriage, E, to which motion is imparted by a pinion, F, and toothed rack G, and which carries the scoops H. These scoops are made of sheet-iron or other suitable material, and two or more may be cut out of one piece of sheet metal and stamped to the desired shape. They are secured to the cross-beams *b* of the carriage E, with their convex ends facing toward the hopper. The cross-beams *b* are either stationary or they may be provided with trunnions, and arranged so that the scoops can be turned up to a horizontal position, if it is desired to move the carriage without stirring the grain; or one or more sets of scoops can be turned up, if the grain should be stirred or moved too quick. When turned up, the scoops are held in position by a hook or other suitable device. By giving to the scoops a semicircular shape they move and stir the grain while going forward, but in going back they stir the grain without moving.

On passing from the platform, the grain slides down over the inclined apron I, which may be perforated and provided with a blower, so as to cool the grain by exposing it to a current of cold air.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The arrangement of the cast-iron tiles C, forming the platform of a machine for drying grain, &c., in combination with ledges or lugs a, projecting from the beams B, as and for the purpose shown and described.

2. The arrangement of several rows of semi-

circular scoops, H, either rigid or adjustable, in combination with the reciprocating carriage E and tiles C, all constructed and operating substantially as and for the purpose specified.

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