

R. READ.

Cleaning and Assorting Beans.

No. 34,645.

Patented March 11, 1862.

Fig. 3.

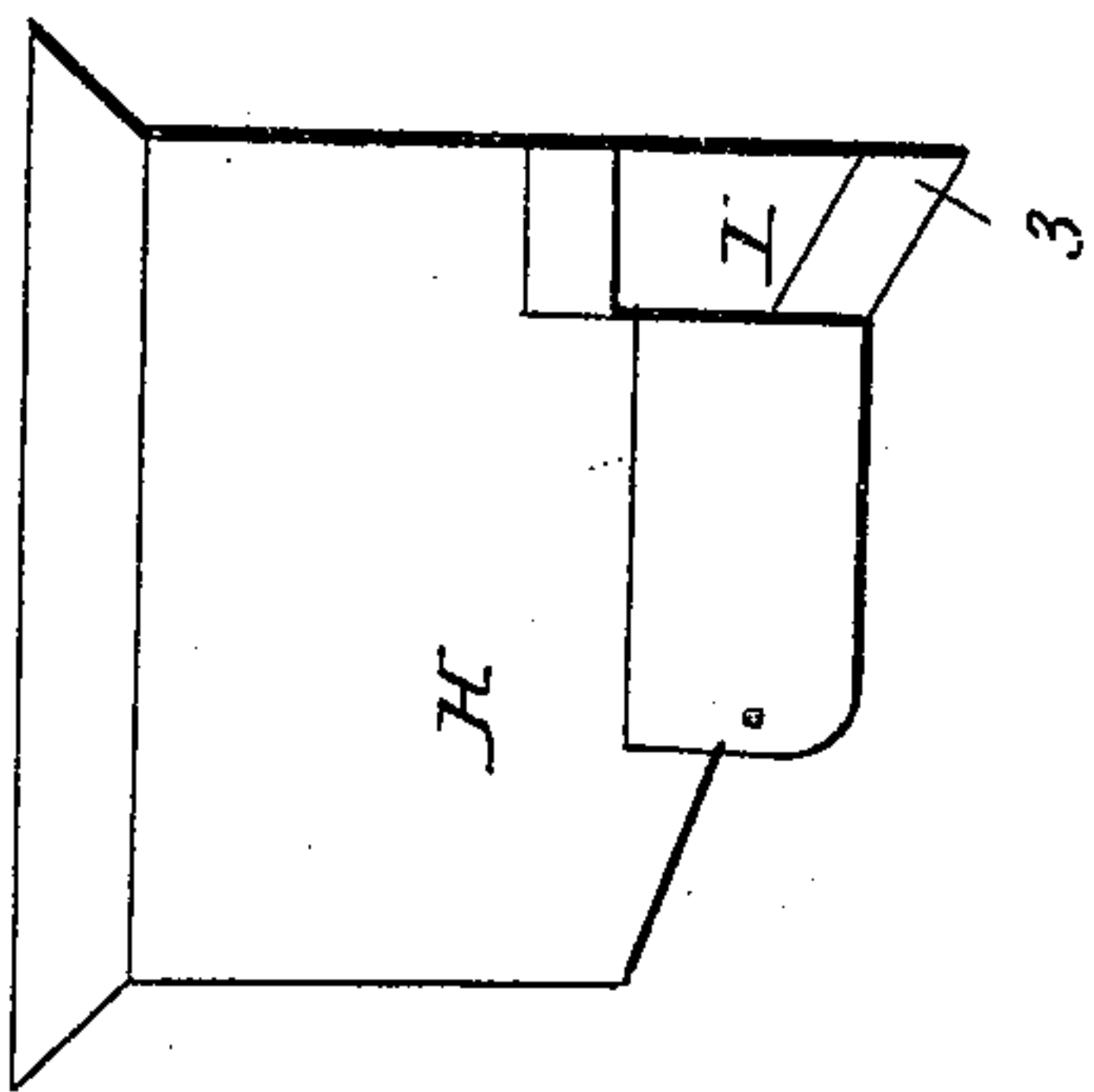


Fig. 4.

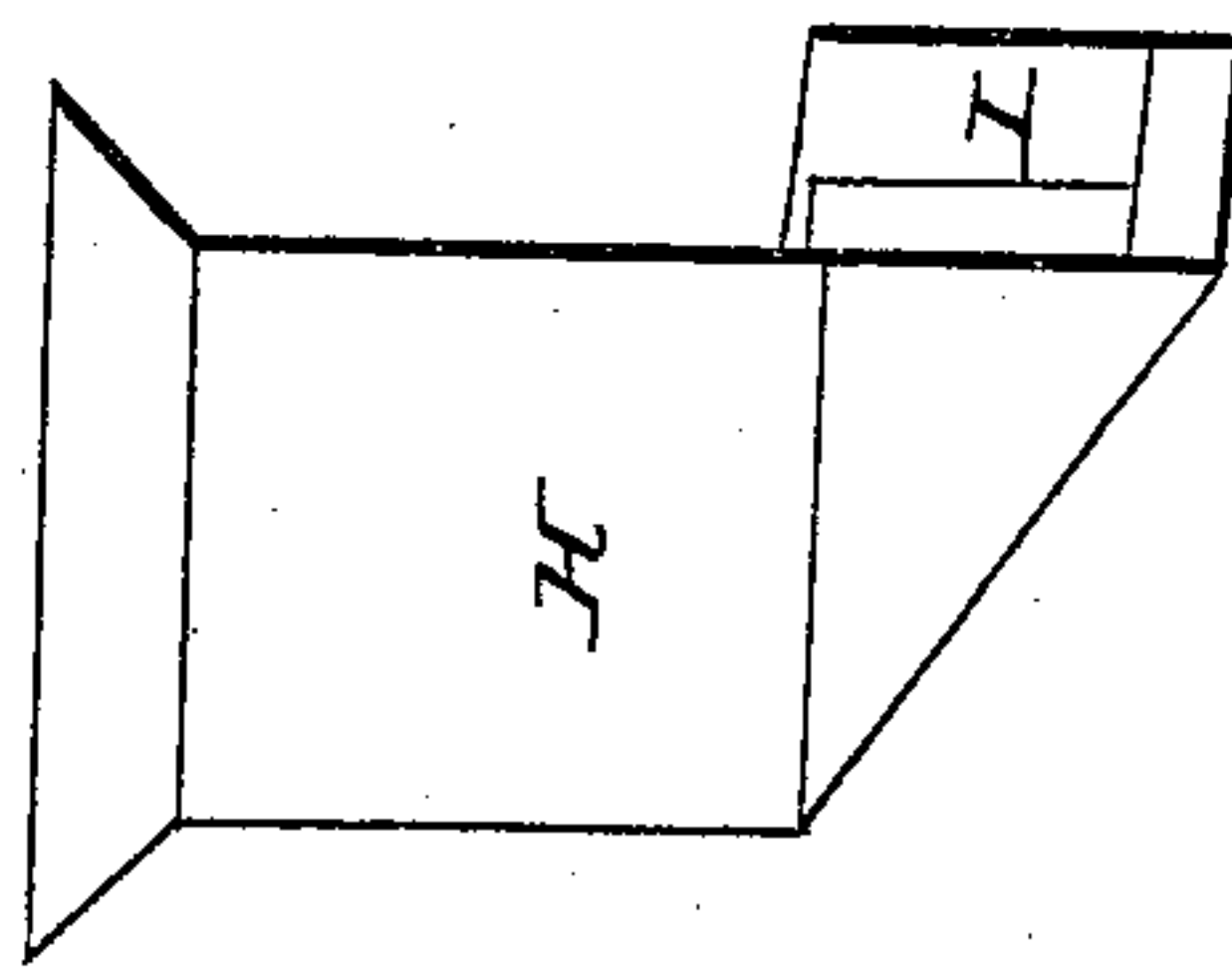


Fig. 2.

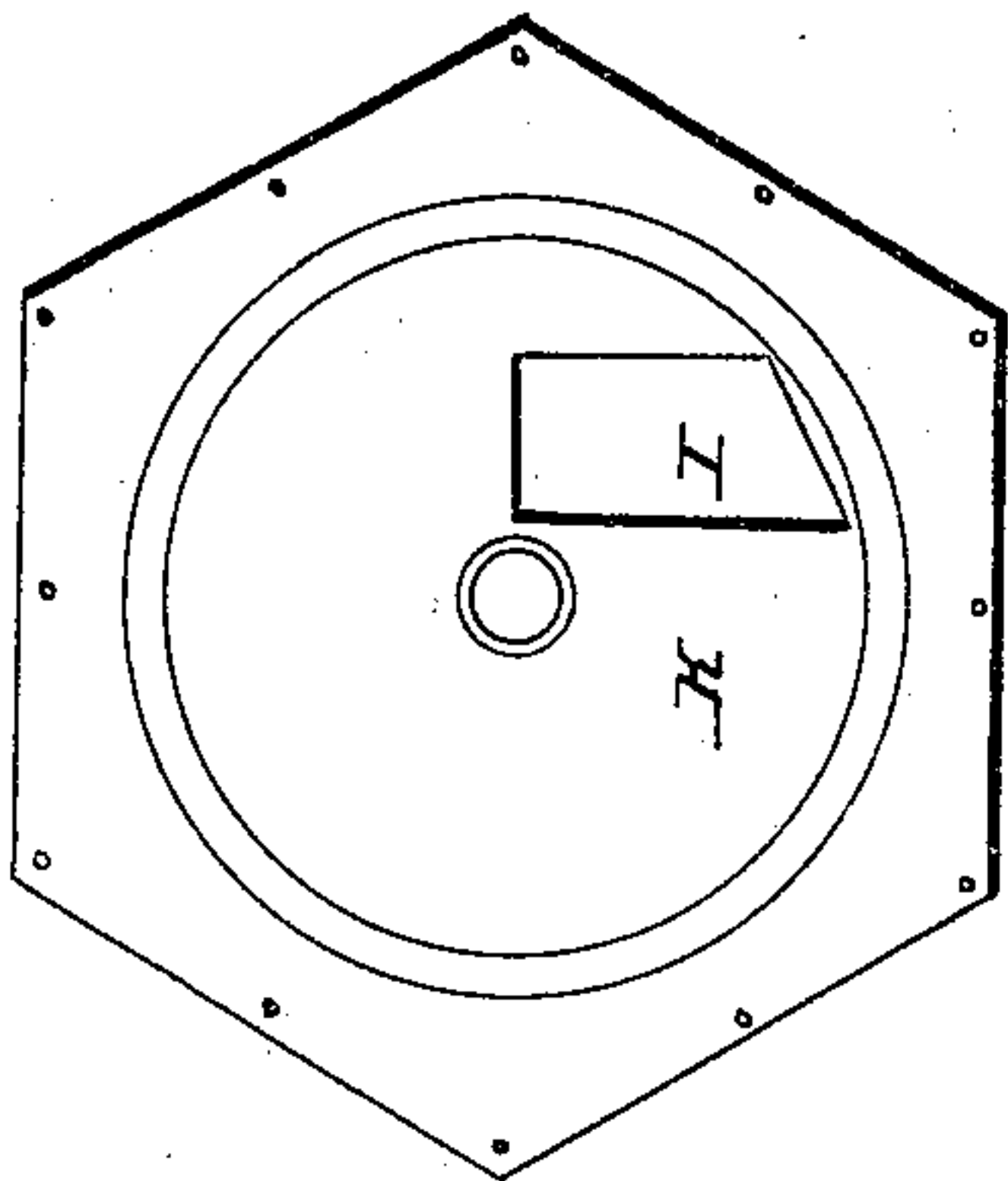
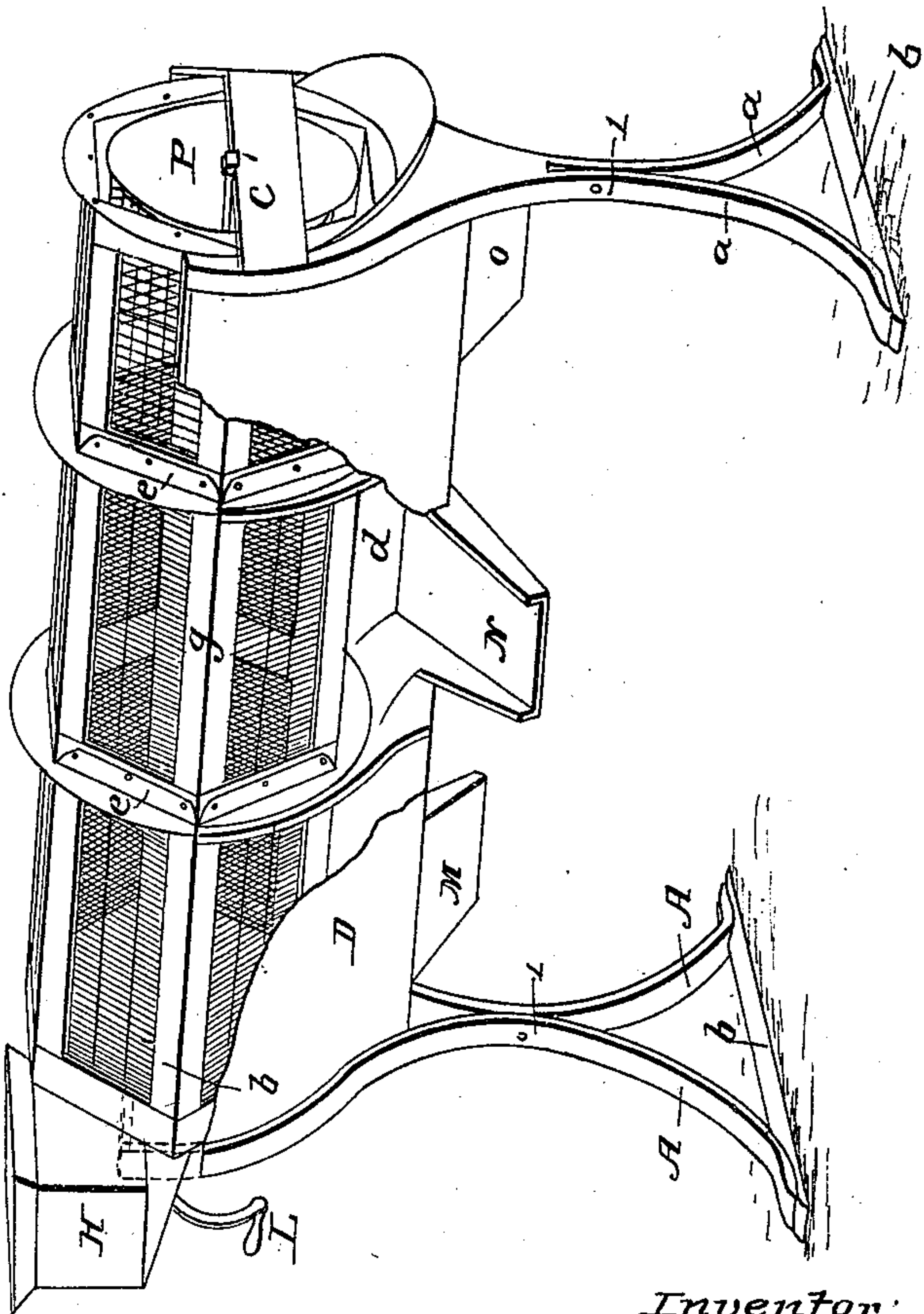


Fig. 1.



Witnesses:  
Byron C. Densmore  
Joseph C. Johnson.

Inventor:  
Resolved Read



# UNITED STATES PATENT OFFICE.

RESOLVED READ, OF BROCKPORT, NEW YORK.

IMPROVEMENT IN MACHINES FOR CLEANING AND ASSORTING BEANS.

Specification forming part of Letters Patent No. 34,645, dated March 11, 1862.

*To all whom it may concern:*

Be it known that I, RESOLVED READ, of Brockport, in the county of Monroe and State of New York, have invented new and useful Improvements in Bean-Cleaners; and I do hereby declare that the following is a full and exact description of the same, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a perspective view of the machine; Fig. 2, a view of the upper end of the screen, showing the hexagonal form of the screen and the plate that closes that end of the screen and the feed-opening through which the beans are fed into the screen; Fig. 3, a transverse view of the feed-hopper; Fig. 4, a longitudinal view of the same.

The frame of this machine consists of the four crooked legs A A and a a. These legs are made of straight timber bent, and should be about one and one-half inch square. The legs of each pair are bolted together at 1 1, Fig. 1. From that bolt downward they bend outward from each other, and the lower ends are about two feet apart. The legs the other way (lengthwise of the machine) are about four and one-half feet apart. The foot-pieces b b may be used or may not be. The machine is most convenient without them. The legs from the bolts 1 1 upward bend outward and reach their greatest distance apart at the top of the end piece c. Here the distance between the legs is about twenty inches. The whole length of the legs should be about four and one-half feet. These legs may be made straight and framed together by cross-girts; but the machine is not as convenient so made. The box for the cylinder is formed of the boards D d, which are four and one-half feet long and twenty inches wide, and should be three-fourths of an inch thick, which are sprung in and fastened to the inner side of the legs and come down and meet together at an acute angle at the bolts 1 1, Fig. 1.

In the drawings, the front board D is cut away in the center to show the full circumference of the cylinder-screen. There is an end piece like c, Fig. 1, on each end.

The screen is a hexagon, the sides and angles being equal, four feet six inches long, and sixteen inches diameter, and may be more or less. This screen is divided into three sections by the two flanges e e. The two upper sections f

and g are of the same length. The other section is a little shorter. The flanges e e extend around the screen and their outer edge is a circle, which extends outside of the angles of the screen about an inch. Each side of the screen is made in a separate piece. These sides are held together by means of rods that have a screw cut on each end. One end of these rods screw into a hub or collar on the shaft or axle of the screen. The other ends of these rods extend out through the angles where the sides come together and have a nut screwed down onto the sides of the screen. These rods are of one-fourth inch round iron, and there are two of them in each angle—one near each end.

The shaft or axle of the screen is made of three-fourths inch round iron and runs in a bearing at each end of the cylinder. These bearings rest on the upper edges of the cross-pieces c, and the one corresponding to it on the other end of the frame. This shaft extends out on the upper end outside of the bearing about one foot to allow the crank to clear the feed-hopper, and the crank is on the upper or outer end. The upper end of the screen is elevated about five inches higher than the lower end.

The hopper H is one foot wide, ten inches long, and eight or nine inches high, with perpendicular sides. The bottom slants downward each way to the corner, where the feed-spout I is located. The spout I passes through the disk or plate K, and extends through into the screen about one inch. This feed-spout is about two inches wide by three inches high, provided with a slide in the top to regulate the feed, as may be required. The disk or plate K is put on to prevent the beans from falling out at the upper end of the screen. This plate is kept up against the end of the screen by means of a small spiral spring on the shaft between the bearing that the shaft runs in and the plate.

The meshes of the different sections of the screen are of different sizes. The meshes in the first section f are about one-seventh of an inch by two and a half inches; those in the middle section about one-fifth of an inch by two and a half inches, and those in the lower section about one-third of an inch by one and one-fourth inch. The length of these meshes lie transversely to the screen. This screen is



made by making a frame of wood for each side, which are fitted together. Then No. 16 wire is put across from side to side one-seventh of an inch apart for the first section of the screen and fastened to the sides. Then the same sized wire is placed one-fifth of an inch apart for the middle section of the screen and one-third of an inch apart for the lower section. Then No. 14 wire is put on cross-wise of this No. 16 wire two inches and a half apart. These last wires are fastened to the others by winding a fine wire, about No. 30, around the No. 14 wire, passing over one of the cross-wires every turn. Then in the lower section of the screen where the meshes are the coarsest I put in another wire into each space between each of the No. 14 wire, which makes the meshes only half the length of the meshes in the other sections. This is done to prevent the wires from springing apart where the meshes are the coarsest. The box under the screen is divided into three separate apartments corresponding in length to the length of the different sections of the screen. The partitions between these apartments come up to the flanges on the screen, so that what is separated by the screen is kept separate when it falls down. Each of these apartments is provided with a spout, which stands high enough from the floor to set a barrel under, and the bottoms of these apartments are made slanting down each way to the spouts, so that whatever falls through the screen runs readily out at the spouts.

This machine is operated by a man or boy turning the crank L, which revolves the screen. The beans are fed into the hopper with a scoop-shovel or spouted in or any way most convenient. As the screen revolves, the beans gradually work down toward the lower end. While they are passing over the first section of the screen, which is the finest mesh, the fine dirt in them drops through the screen and

runs out at the spout M. As the beans pass over the middle section of the screen, the small beans and parts of beans fall through that section of the screen and run out at the spout N on the other side of the machine and the good beans fall through the lower section of the screen, and pods and whatever is larger than beans is carried on and falls off at the end of the screen through the spout O' and spaces O<sup>2</sup>, Fig. 1.

The plate P is put into the lower end of the screen to prevent beans from flying out. This plate is round and some three or four inches less in diameter than the screen, and is fastened onto the shaft and revolves with it.

This machine is principally used where beans have been bought in large quantities for market and required to be cleaned before they are merchantable, as they most invariably do. This cleaning has been done heretofore by putting them in a small quantity at a time into a flat sieve or screen and shaking them on the sieve until the small stuff passed through it, then take off with the hand what has accumulated on top of the beans, which was a slow laborious process compared with the labor of running them through this machine; but this machine not only very much reduces the labor of cleaning beans, but it cleans them much better than anything that has been used heretofore for that purpose.

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

The combination of the hexagonal screen constructed as described, flanges *e e*, spouts *m n o*, and case D, feed-hopper H, spout I, and disk K, when arranged and operating as and for the purposes above set forth.

RESOLVED READ.

Witnesses:

JOSIAH HARRISON,  
MORTON A. READ.