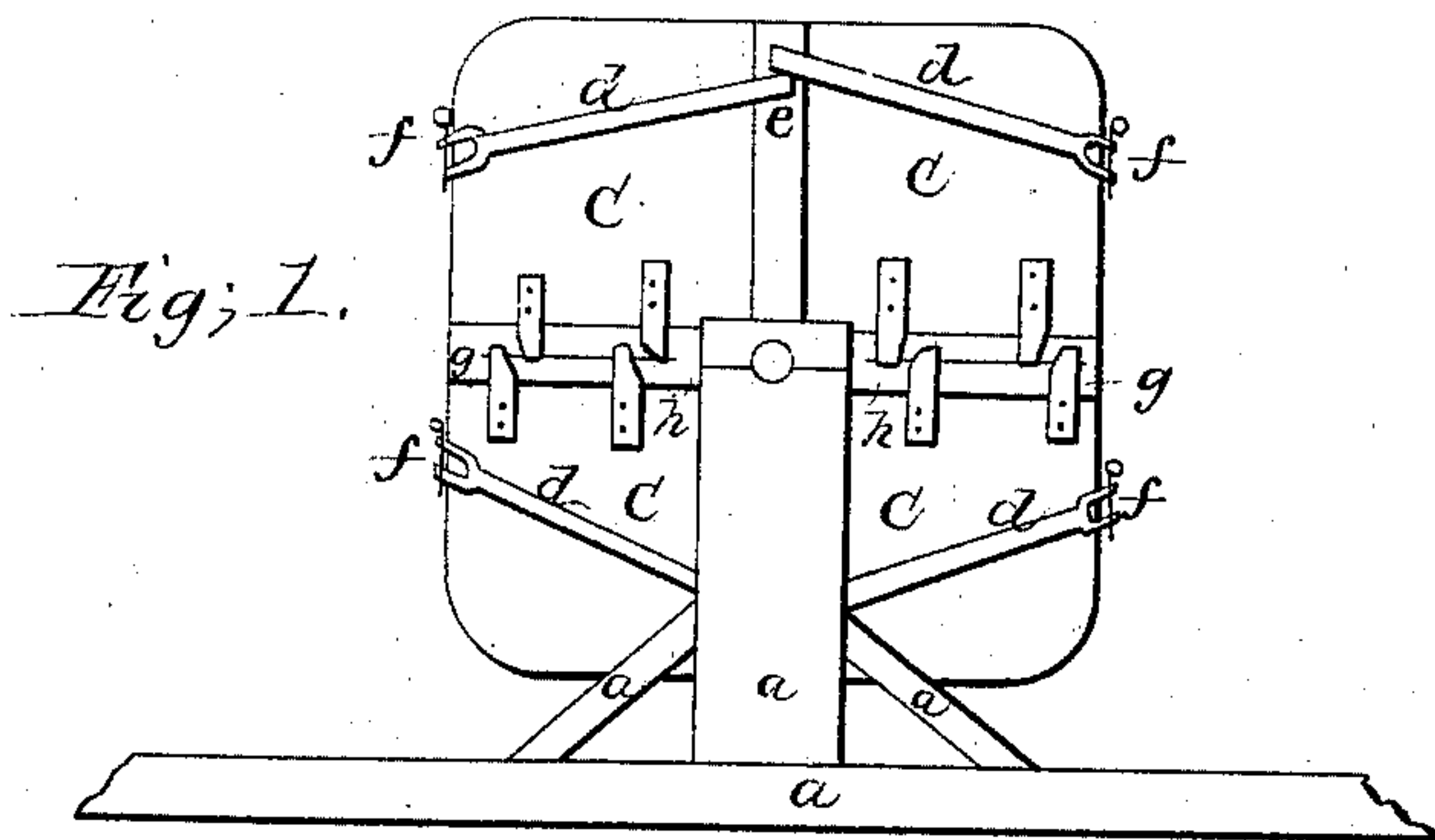


*H. R. Remsen.*

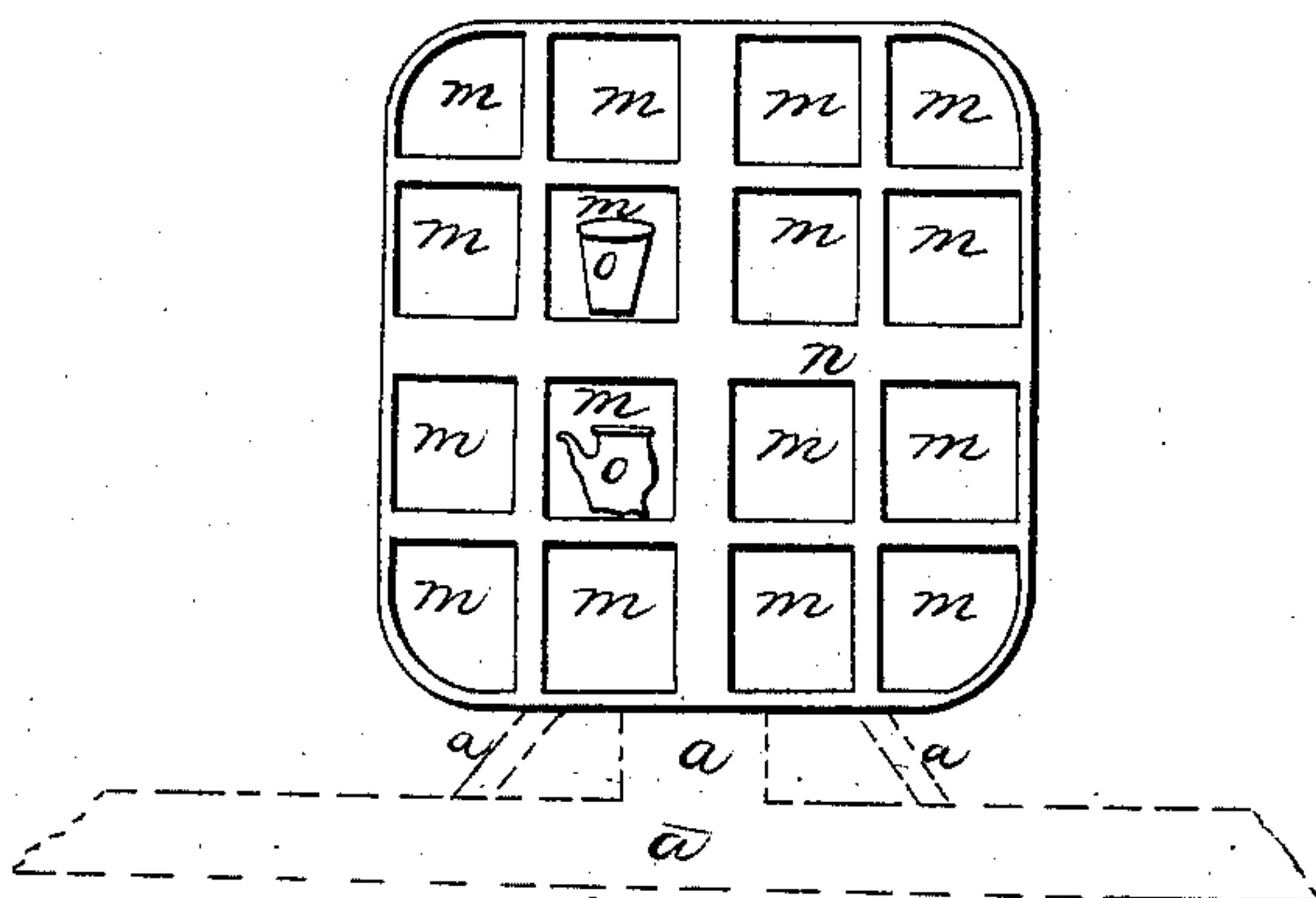
*Tumbling Barrel.*

*N<sup>o</sup> 17,012.*

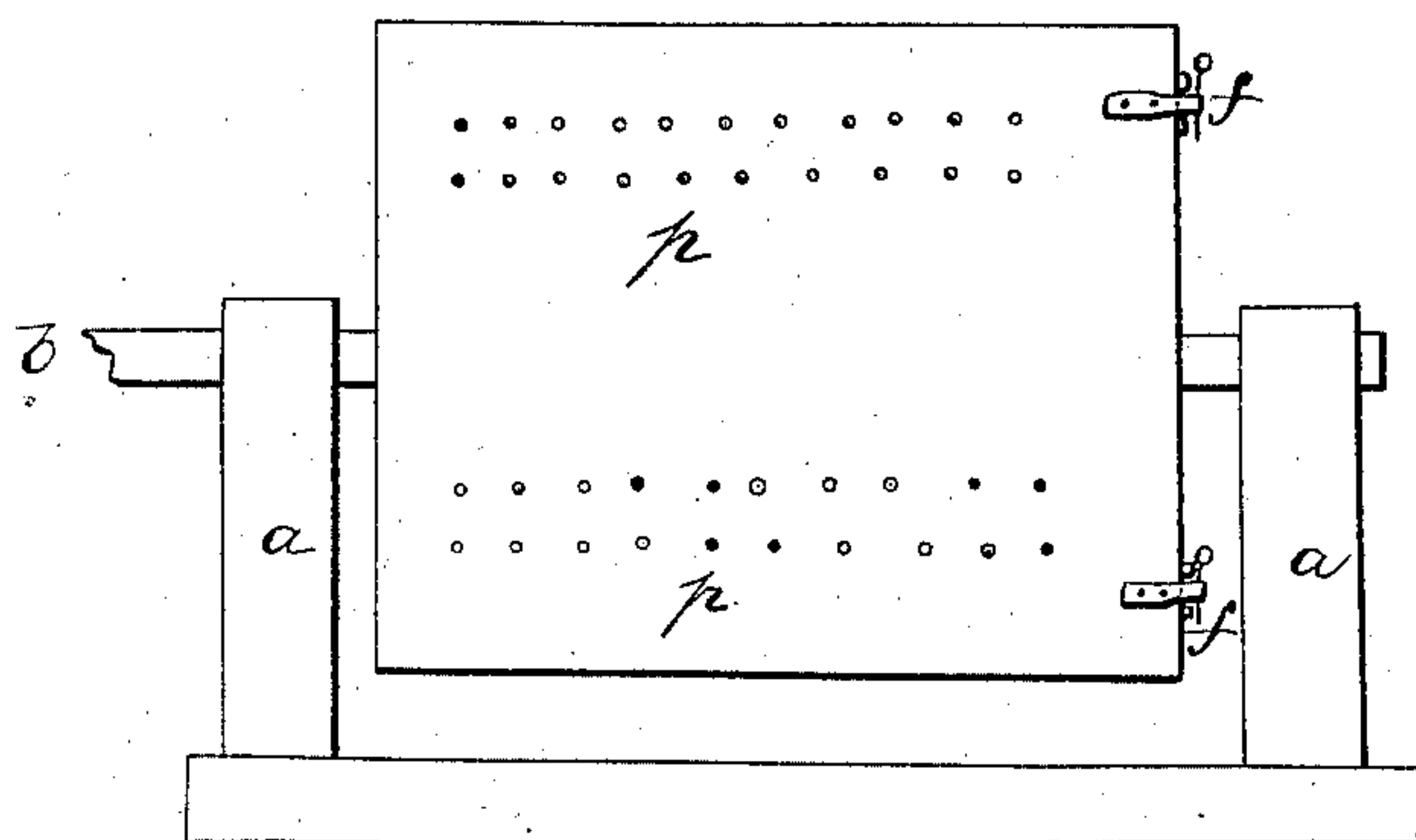
*Patented Apr. 7, 1857.*



*Fig; 2.*



*Fig; 3.*





# UNITED STATES PATENT OFFICE.

HENRY R. REMSEN, OF ALBANY, NEW YORK, ASSIGNOR TO H. R. REMSEN AND W. J. NOYES.

## MILL FOR CLEANING CASTINGS.

Specification of Letters Patent No. 17,012, dated April 7, 1857.

*To all whom it may concern:*

Be it known that I, HENRY R. REMSEN, of the city and county of Albany and State of New York, have invented a new and useful Improvement in Mills for Cleaning Hollow Ware and other Castings, of which the following is a full and exact description, reference being had to the annexed drawings, which constitute a part of this specification.

Figure 1 is an end elevation of the mill, which is a revolving mill, made of iron or any suitable material, turning freely with a horizontal axle. The ends of the axle, projecting from the mill, rest on a frame-work, and power is applied to the axle, in any of the usual modes, making the mill to revolve. In Fig. 1, *a, a, a, a*, is a part of the frame-work, and *b*, is one end of the axle. The general shape of the mill is that of a right-angled parallelopiped, with the edges of the sides rounded off, as seen in Figs. 1 and 2. In Fig. 1 *c, c, c, c*, represent four doors, opening outward, on the hinges *g, g*; and those doors, when shut, are secured in their places by the bars *d, d, d, d*, which turn on hinges (as at *e*) and are secured by pins at *f, f, f, f*. At *h, h*, are seen the ends of partitions which run parallel with the axle; and which with other partitions, (as seen in Fig. 2,) divide the interior of the mill into compartments.

In Fig. 3, which is a side elevation, *a, a*, is part of the frame-work; *b, b*, the axle; *f, f*, the pins fastening the bars, as seen in Fig. 1; and *p, p*, are holes, perforated in the side, for the purpose of letting out the sand and dust.

Fig. 2 represents a section at right angles with the axle, made at any point in the mill. The places marked with the letter, *m*, are compartments to receive the hollow-ware and other castings; and these compartments are formed by partitions, marked, *n*, running parallel with the axle. These partitions are all made of open-work, or lattice, or grating, of sufficient strength to bear the weight of the castings put into the several compartments. This open-work, lattice, or grating is small enough to prevent the hollow-ware or castings from passing through from one compartment to another; and coarse enough to allow the shot-iron or other securing material to pass through freely. I usually make these partitions of a few bars of iron run-

ning parallel with the axle, the only object being to keep the hollow-ware or other casting from passing from one compartment to the other. If this is accomplished, the more open the partitions, the better. These compartments are made of such size that the hollow-ware or other castings can move freely therein, as it is turned over by the revolution of the mill.

In using the mill, the doors *c, c, c, c*, are opened by unfastening the bars *d, d, d, d*, and pieces of hollow-ware, or other castings, to be cleaned are put into these several compartments above described, as seen at *o, o*, in Fig. 2, until such compartments or so many of them as may be needed, are full. But the hollow ware and castings are not packed so closely that they cannot move. Shot-iron broken pieces of castings, or other suitable scouring material, are then put into the mill; the doors are closed and fastened, and the mill is made to revolve by machinery.

In mills now in use there are no compartments, and the castings are put in loosely, and are allowed, as the mill revolves, to rest and fall one on the other. They are thus often cracked and otherwise injured. The object of forming these compartments is that each piece of the hollow-ware or other castings shall be at liberty to shift its position freely and without coming in contact with or sustaining any of the weight of the other castings or things in the mill, while, at the same time, the shot, iron or other scouring material used is at liberty as the mill revolves, to circulate freely through the open-work partitions, and to act effectually on the hollow-ware or other castings, in all of the several compartments at the same time, essentially as described.

I gain two advantages. One is the hollow-ware and castings are less liable to be broken in my mill. The other is that the work is done more quickly and effectually, because, when there are no partitions, the hollow-ware and castings and scouring material lie in one mass at the bottom of the mill; and there is less motion of the scouring material on and over the articles to be cleaned.

Of course my mill may be made of different shapes and sizes. It might be cylindrical, or of the shape of a prism with six, eight or more or less sides. So also the number or size of the compartments may



be varied, and the partitions may be differently arranged. The partitions, for instance might be concentric cylinders with other partitions crossing like radii. So also  
5 the mode of opening the mill; and the mode of securing the doors may be varied.

I do not claim making a revolving mill for cleaning hollow ware or other castings; nor do I claim any particular external form,  
10 or any mode of opening or fastening the doors.

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

The use in a horizontal, revolving mill, the cleaning castings or hollow ware, of open- 15 work, lattice or grated partitions parallel to, or in a line with the axle; for the purpose of such compartments as I have described, substantially as above set forth.

Dated June 30th, 1856.

HENRY R. REMSEN.

Witnesses:

W. S. WARNER,  
JAS. C. COOK.