

No. 867,134.

PATENTED SEPT. 24, 1907.

F. HOLTZHAUSEN.  
DECORTICATOR.

APPLICATION FILED JAN. 29, 1907.

Fig. 1

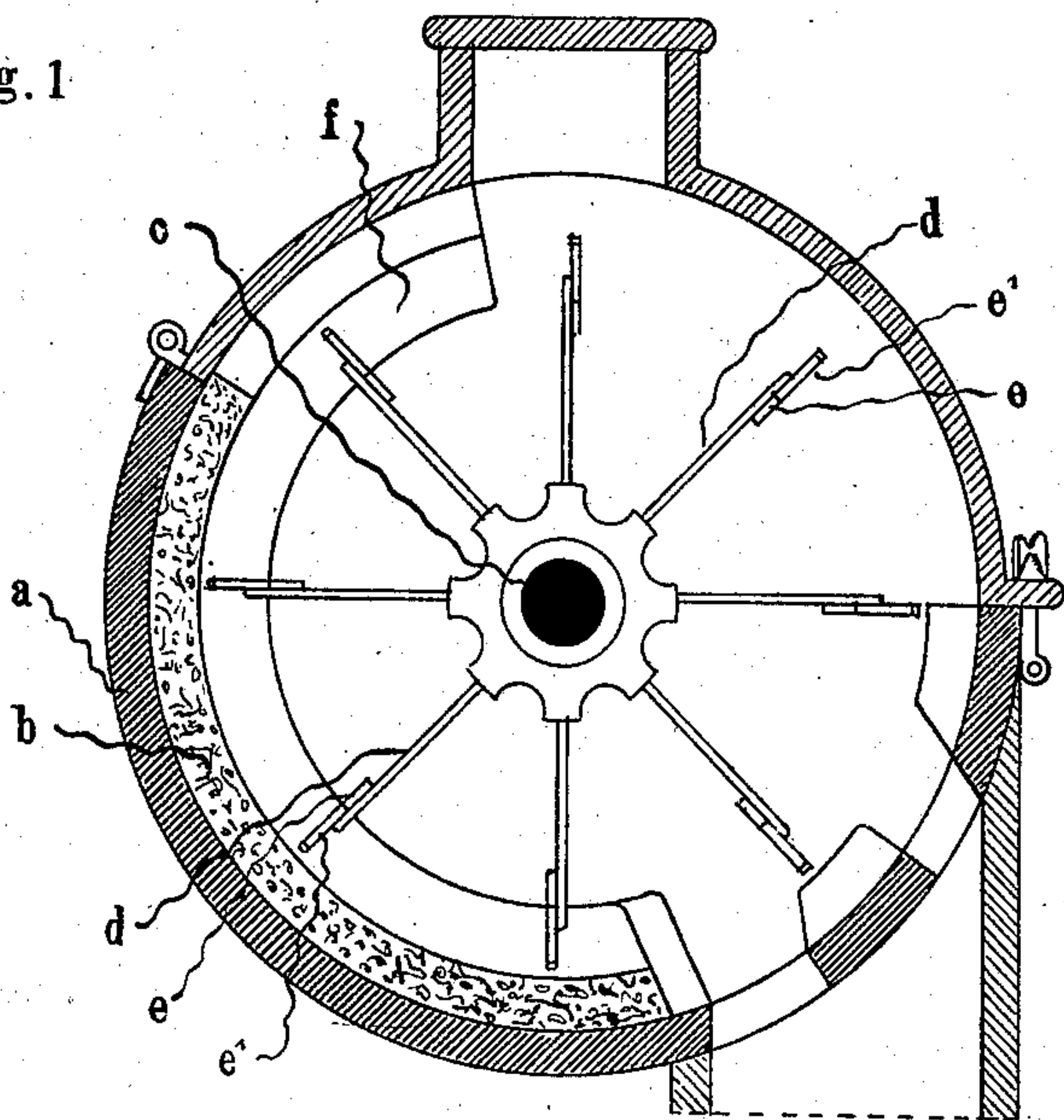


Fig. 2

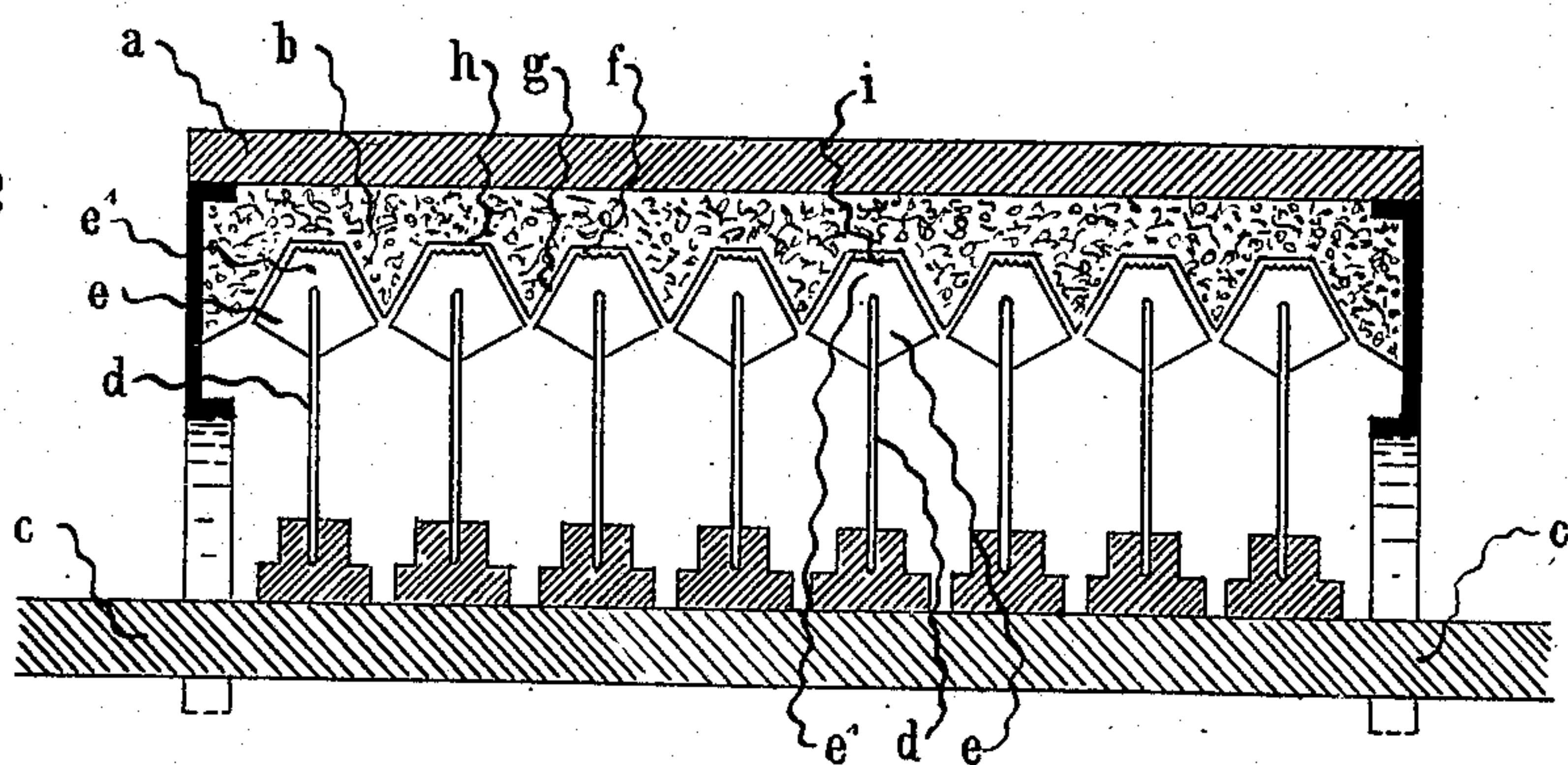
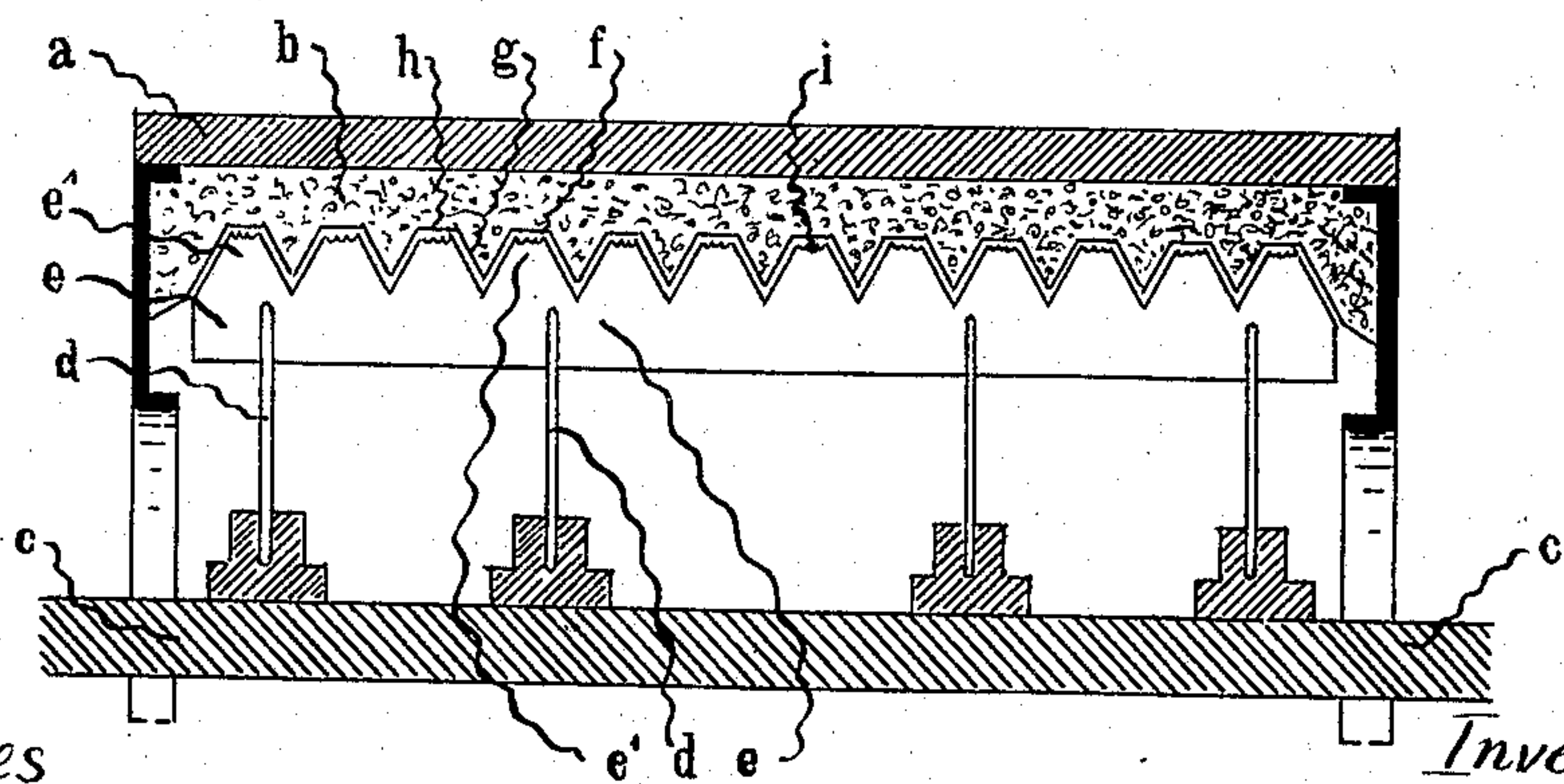


Fig. 3



Witnesses  
C. H. Schilling  
Dora F. Schilling

Inventor  
Franz Holtzhausen  
by Paul C. Schilling  
his attorney



# UNITED STATES PATENT OFFICE.

FRANZ HOLTZHAUSEN, OF NOSSEN, GERMANY.

## DECORTICATOR.

No. 867,134.

Specification of Letters Patent.

Patented Sept. 24, 1907.

Application filed January 29, 1907. Serial No. 354,696.

To all whom it may concern:

Be it known that I, FRANZ HOLTZHAUSEN, a subject of the German Emperor, and a resident of Nossen, in Saxony, German Empire, have invented new and useful Improvements in Decorticators, of which the following is a specification.

My invention relates to an improved machine for hulling or decortivating grain and seeds, of that class in which decortivating elements are rotated within a case or drum having emery or like internal abrading surfaces, against which the grains are driven and thus decorticated.

One form of construction of the new machine is illustrated in the accompanying drawing, in which

Figure 1 is a cross section, and Fig. 2 a longitudinal section of the one half of the machine. Fig. 3 is a like view to Fig. 2, illustrating a modification.

*a* is the drum, *b* being the internal decortivating surfaces of any suitable description, such as slabs of emery. *c* is a rotary shaft, which may be driven by any suitable source of power located outside the drum. On the shaft are mounted the arms *d* at the extremities of which are the actual decortivating vanes or buckets *e*, the outer working portion *e'* of which is of trapezoidal form. The decortivating surfaces *b* are furnished with channels *f*, which in cross section present the same shape as the buckets *e*, consisting of two inclined walls *g* and a sole *h*. These channels may be produced in any desirable manner, for instance, by locating ribs with sloping sides on or in the emery slabs at a distance apart representing the width of the sole of the channel; or the channels may be cut out of the material of the slabs. The buckets *e* in rotating travel along the channels. In order to assist the grains in traveling properly along these channels, the outer edge *i* of the buckets *e* may be sinuous or crenelated.

In the modification shown in Fig. 3, instead of separate buckets *e*, a long plate is employed, the edge of which presents the operating portions *e'*.

The advantages of the new machine are obvious. In prior decorticators the buckets run on a plane surface. The grains are thrown only in one direction and can

relatively easily deviate laterally, so that the effective hulling action is comparatively small: that is, the machine requires a relatively long time to perform a given amount of work. With my improved machine each channel constitutes a confined course for the grains, which are driven round in it. They are first thrown against the lateral walls *g* and owing to the limited distance of this throw and the resulting violence thereof, the effect attained is very great. The grains in their advance are then forced down toward the sole *h*, where they at first accumulate and are subjected to considerable abrading action. On finally quite reaching the sole *h* they are rapidly driven forward, and in their advance are kept well together, owing to the walls *g* offering an obstruction to lateral deviation. The grains thus travel in a compact body, rendering it easy for the decortivating buckets to act upon them. In this manner the grain is subjected to an extremely thorough treatment in the machine.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:—

1. In a grain decorticator, the combination with a horizontal drum, internal abrading surfaces having vertically disposed parallel channels of trapezoidal profile, a horizontal shaft rotating in said drum, radial arms on said shaft and terminal blades carried by said arms, of approximately the same trapezoidal contour as that of the channels within which they revolve, substantially as and for the purpose set forth.

2. In a grain decorticator, the combination with a horizontal drum, internal abrading surfaces having vertically disposed parallel channels of trapezoidal profile, a horizontal shaft rotating in said drum, radial arms on said shaft, and terminal blades carried by said arms, of approximately the same trapezoidal contour as that of the channels within which they revolve, the outer edge of each trapeze being uneven substantially as and for the purpose set forth.

In testimony whereof I affix my signature, in presence of two subscribing witnesses.

FRANZ HOLTZHAUSEN.

Witnesses:

ULYSSES J. BYWATER,  
PAUL ARRAS.