

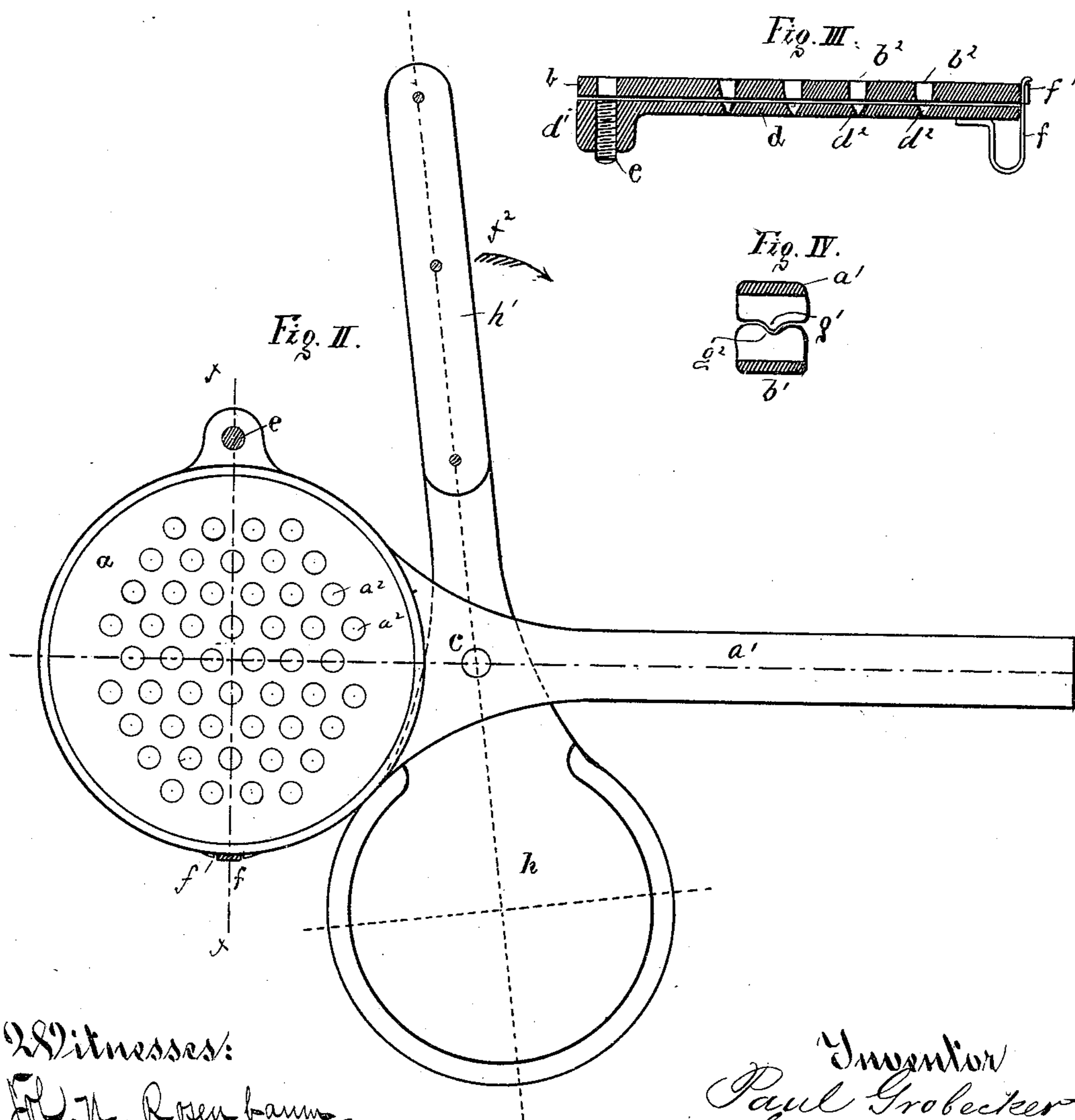
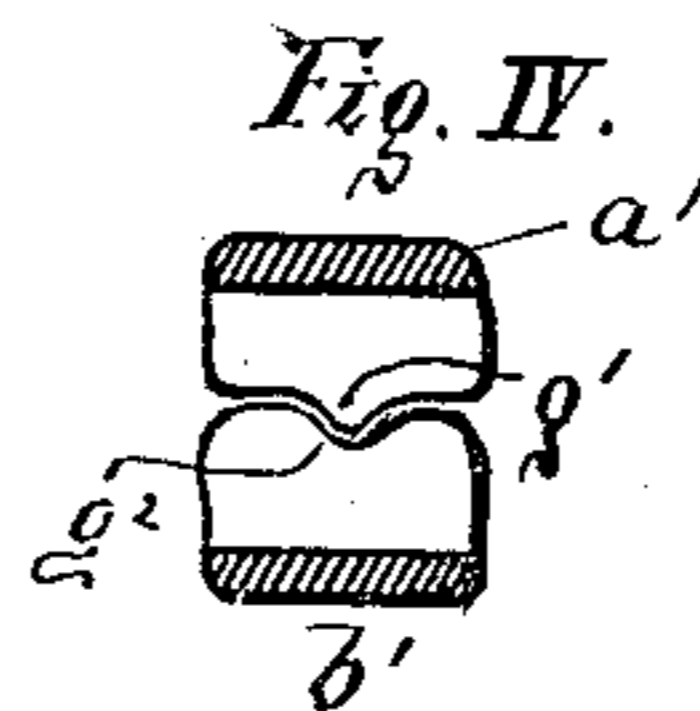
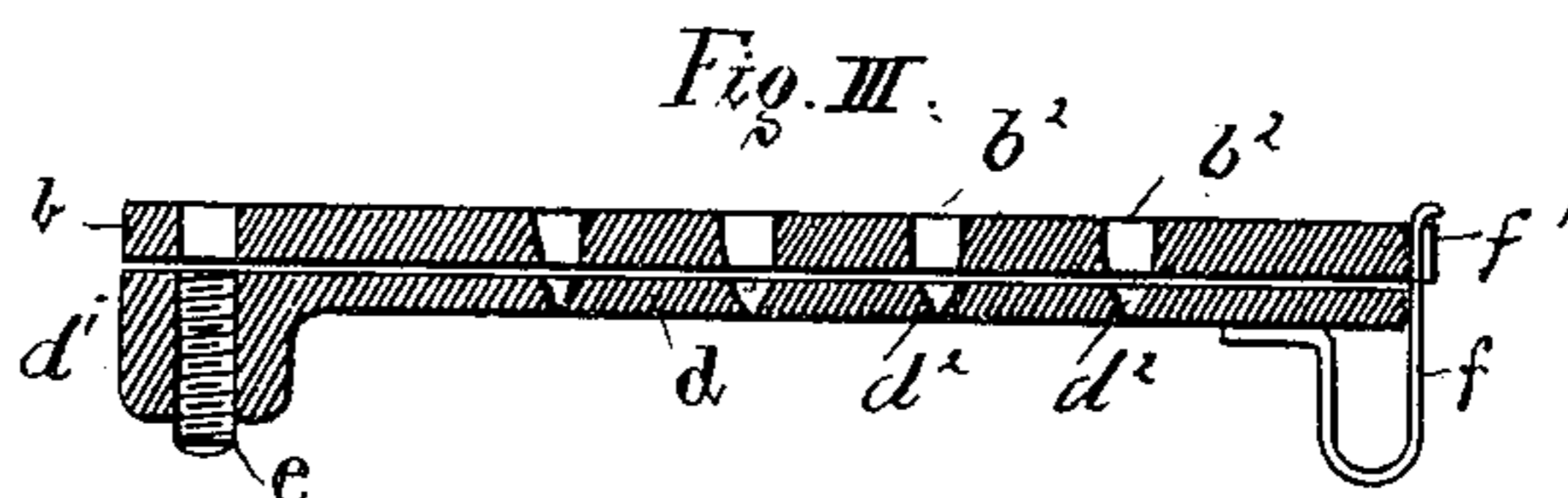
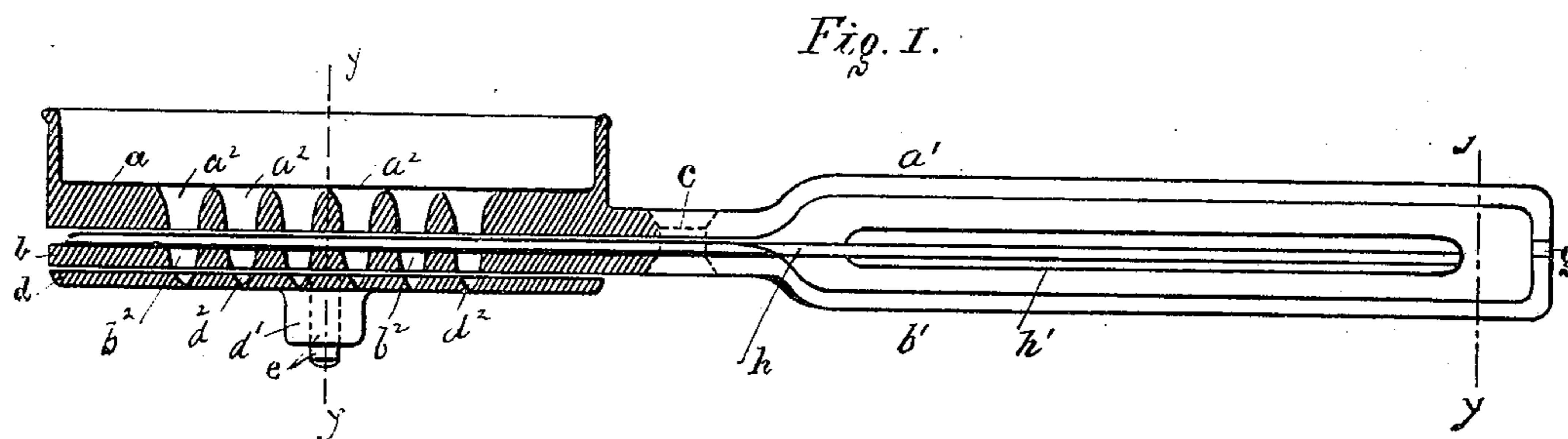
(No Model.)

P. GROBECKER.

APPARATUS FOR TESTING GRAIN.

No. 381,469.

Patented Apr. 17, 1888.



28 Witnesses:

W. H. Rosenbaum.
Carl Karp.

Inventor
Paul Grobceker
by G. J. R. R. R. R.
Attorneys.

UNITED STATES PATENT OFFICE.

PAUL GROBECKER, OF ARTERN, SAXONY, GERMANY.

APPARATUS FOR TESTING GRAIN.

SPECIFICATION forming part of Letters Patent No. 381,469, dated April 17, 1888.

Application filed September 14, 1887. Serial No. 249,616. (No model.) Patented in Germany November 6, 1886, No. 39,622; in England November 29, 1886, No. 15,569, and in Austria-Hungary April 6, 1887, No. 46,594 and No. 11,700.

To all whom it may concern:

Be it known that I, PAUL GROBECKER, of Artern, Saxony, Germany, have invented certain new and useful Improvements in Apparatus for Testing Grain, (for which Letters Patent have heretofore been granted to me in Germany, No. 39,622, dated November 6, 1886; in Great Britain, No. 15,569, dated November 29, 1886, and in Austria-Hungary, No. 46,594 and No. 11,700, dated April 6, 1887,) of which the following is a specification.

The object of my invention is to provide a new and improved apparatus for cutting grains transversely, so as to obtain a clean-cut cross-section of the same to facilitate examining them.

The invention consists in the combination, with a cup or receptacle having tapered apertures in its bottom, of a plate hinged to the under side of said cup and provided with corresponding apertures, and a cutter pivoted between the cup and the plate.

The invention also consists in the construction and combination of parts and details, as will be fully described and set forth hereinafter, and finally pointed out in the claims.

In the accompanying drawings, Figure 1 is a longitudinal sectional elevation of my improved device for cutting grains, the handles being shown in elevation and the cup and the plate being so adjusted that their apertures coincide. Fig. 2 is a plan view of the same, the cutter or blade being swung from below the receptacle, parts of the receptacle being in section. Fig. 3 is a cross-sectional view of the plate and a hinged check-plate on the under side of the same on the line $x x$, Fig. 2. Fig. 4 is a cross sectional view on line $y y$, Fig. 1.

Similar letters of reference indicate corresponding parts.

The cup-shaped receptacle a , which has a handle, a' , is provided in its bottom with a series of apertures, a^2 , which are tapered from the upper to the lower surface of the bottom of the said cup-shaped vessel a . The plate b is of the same diameter as the cup a , and is provided with a handle, b' , which is pivoted to the handle a' by the pivot c , and said plate b is provided with a series of apertures, b^2 , co-

inciding with the apertures a^2 of the cup a , which apertures b^2 also taper from the upper to the lower surface of the plate b , the upper diameters of the apertures b^2 being the same as the lower diameters of the apertures a^2 .

The handles a' b' are preferably made of spring metal, and the handle b' is provided at its free end with a nose, g' , which can pass into the notch g^2 in the bent end of the handle b' for the purpose of holding the plate b in such a position in relation to the cup a that the axes of the several aperture a^2 b^2 coincide, the spring-tension of the handles keeping the nose g' in the notch g^2 .

A disk-shaped blade, h , is mounted to turn on the pivot e , and to swing in between the under side of the cup a and the upper surface of the plate b , said disk-shaped blade h being provided with a handle, h' , arranged between the handles a' b' . The plate b is provided at the edge with a downwardly-projecting screw, e , on which a lug, d' , is mounted to turn, said lug projecting downward from a plate, d , at the edge, which plate d is provided diametrically opposite to the lug d' with a spring-catch, f , the free end of which is adapted to engage a notch, f' , on the plate b . The plate d is also provided at its upper side with tapered apertures d^2 , which coincide with the apertures a^2 and b^2 . As the lug d' is mounted on the screw e , it is evident that by turning the plate in one direction it is moved from the under side of the plate b and by turning it in the other direction it is moved toward the plate b , thus permitting of adjusting the plate d at a greater or less distance from the under side of the plate b . This is necessary, as the grains have various lengths.

The operation is as follows: The plate d is adjusted, in the manner set forth, a greater or less distance from the under side of the plate b , according to the length of the grains, and locked in place by the spring f . The blade or cutter h is swung from under the cup a into the position shown in Fig. 2, and a quantity of grain placed in the cup a , which cup is then shaken, so that the grains pass into the apertures a^2 b^2 d^2 and stand vertically in the same. The handle h' of the cutter h is then swung in the direction of the arrow x^2 , Fig. 2, so as to

cause the blade *h* to pass in between the upper side of the plate *b* and the under side of the cup *a*, whereby all the grains in the apertures *a*² *b*² *d*² are cut transversely with a clean sharp cut, which permits of examining their cross-section very accurately.

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

1. The combination, with a cup-shaped vessel having tapered apertures in its bottom and provided with a handle, of a plate provided with a handle pivoted to the handle of the cup-shaped vessel, which plate is also provided with tapered apertures in line with those of the vessel, and a blade pivoted between the two handles to swing between the upper surface of the plate and the under side of the cup-shaped vessel, substantially as shown and described.

2. The combination, with a cup-shaped vessel having tapered apertures in its bottom, of a plate pivoted to the under side of the cup-shaped vessel and also provided with apertures coinciding with those in the bottom of the vessel, a check-plate pivoted to the under side of the above-mentioned plate and also provided with tapered apertures the centers of which coincide with those of the apertures in the other plate and the cup shaped vessel,

and a blade pivoted between the cup-shaped vessel and the plate pivoted to it, substantially as shown and described.

3. The combination, with the cup shaped vessel *a*, having tapered apertures *a*² and the handle *a'*, of the plate *b*, having tapered apertures *b*² and handle *b'*, the pivot *c*, by which the handles *a'* *b'* are pivoted together, and the blade *h*, mounted on the pivot *c* at the under side of the cup *a*, substantially as shown and described.

4. The combination, with the cup-shaped vessel *a*, having the tapered apertures *a*², of the plate *b*, having the tapered apertures *b*², the plate *d*, provided with the lug *d'*, the screw *e*, projecting downward from the plate *b*, on which plate the lug *d'* is mounted to turn, the catch *f*, and the blade *h*, pivoted between the cup-shaped vessel and the plate *b*, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

PAUL GROBECKER.

Witnesses:

OTTO GROTJAN,
FR. LÖWENSTEIN.