

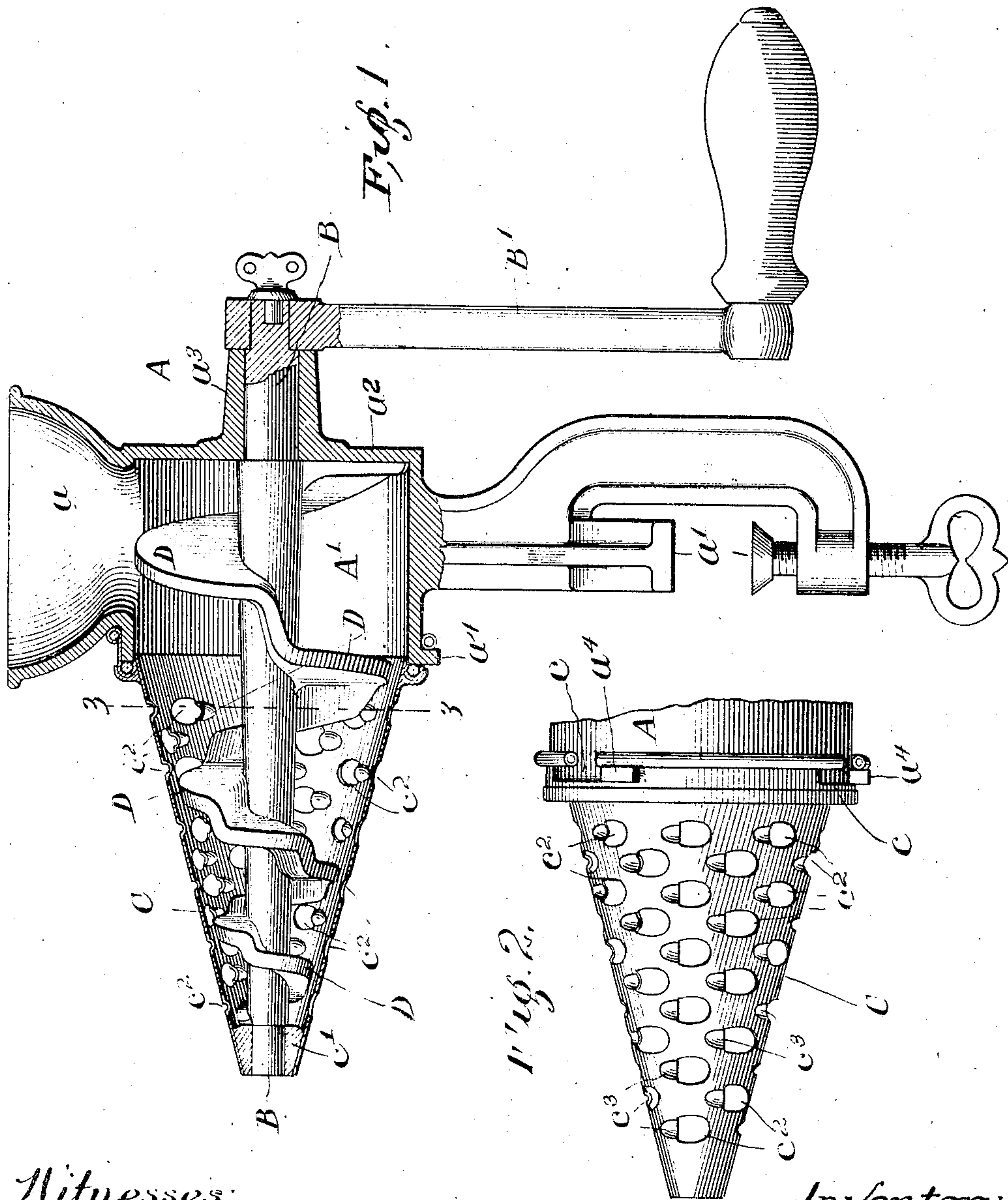
No. 842,236.

PATENTED JAN. 29, 1907.

J. NEUKIRCHEN.
VEGETABLE CUTTER.

APPLICATION FILED JUNE 26, 1905. RENEWED JULY 2, 1906.

2 SHEETS—SHEET 1.



Witnesses:
K. M. Cornwall
J. E. Sherry.

Inventor:
Jean Neukirchen,
by Bitum, Miles & Sherry
Attys

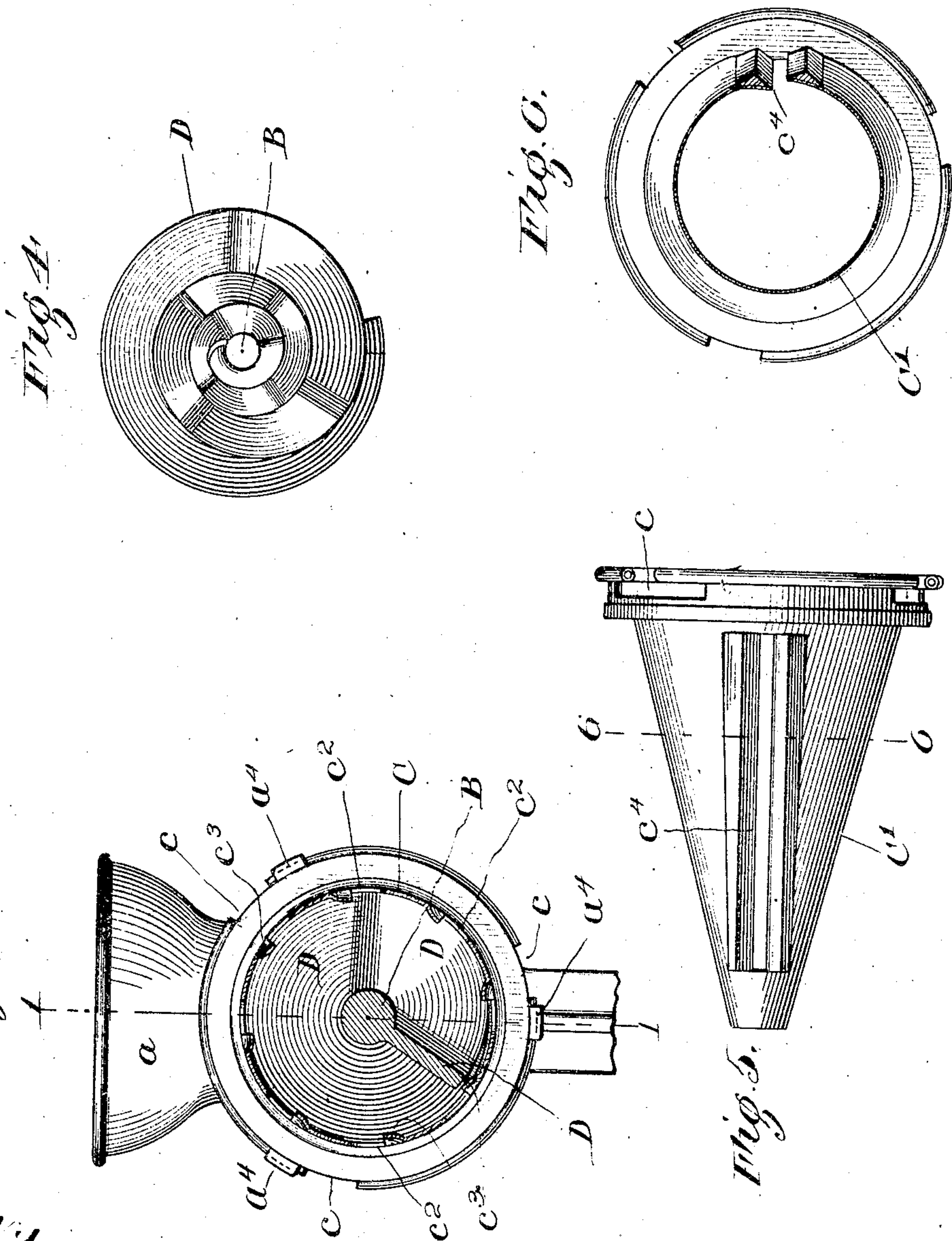
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UNITED STATES PATENT OFFICE.

JEAN NEUKIRCHEN, OF COLOGNE, GERMANY, ASSIGNOR TO PETER NEUKIRCHEN, OF CHICAGO, ILLINOIS.

VEGETABLE-CUTTER.

No. 842,236.

Specification of Letters Patent.

Patented Jan. 29, 1907.

Application filed June 26, 1905. Renewed July 2, 1906. Serial No. 324,462.

To all whom it may concern:

Be it known that I, JEAN NEUKIRCHEN, a subject of the Emperor of Germany, residing at Cologne, Germany, have invented certain new and useful Improvements in Vegetable-Cutters, of which the following is a specification.

My invention relates to improvements in vegetable-cutters, and is fully described and explained in this specification and shown in the accompanying drawings, in which—

Figure 1 is a side elevation with the cover partly removed along the line 1 1 of Fig. 3. Fig. 2 is a side view of the conical grater and a fragment of the main casing. Fig. 3 is a vertical cross-section on the line 3 3 of Fig. 1. Fig. 4 is an end elevation of the worm. Fig. 5 is a side view of a modified form of grater; and Fig. 6 is a cross-section of the same, taken in the line 6 6 of Fig. 5.

Referring to the drawings, A is a frame having a hopper *a* at its upper end and a clamp *a'* at its lower end, by which means it can be attached to a table or other support. The center of the frame consists of a horizontal cylindrical portion *A'*, one side of which is closed by a wall *a''*, provided with a journal *a'''* to receive a shaft B, rotatable by means of a crank *B'*. The opposite face of the horizontal cylindrical portion *A'* is open and is provided near its edge with a plurality of radially-projecting lugs *a''''*.

C indicates a hollow metallic cone, the larger end of which fits over the open end of the cylindrical portion *A'* of the frame and is held thereon by engagement with the lugs *a''''* with bayonet-slots *c* at the end of a cone. The opposite or smaller end of the cone is closed by means of a block *c'*, which acts as a bearing for the opposite end of the shaft B. The cone C is provided with a plurality of small perforations *c''*, the metal of the cone being depressed on one side of each of said perforations at *c'''* to form cutting edges.

D indicates a spiral web, preferably integral with the shaft, the width of said web decreasing gradually toward the small end of the cone, so that the spiral formed by the web fits closely therein. It will be seen that the web is not arranged in a true spiral, but is provided at intervals with a plurality of comparatively steep steps which increase the average pitch of the web.

The operation of my device will be readily

apparent. The material to be operated upon is placed in the hopper and from there passes into the cylindrical portion of the frame. As the crank is turned the spiral web on the shaft operates to convey the material into the cone or grater D. As the shaft rotates a portion of the material eventually lodges just in advance of one of the steps in the web, and when it reaches this position there is only a slight tendency to move forward, the force of the machine operating to move the material around the grater. When the material is sufficiently reduced in size as to require but little force to advance it into the cone, it moves on until the next step is reached, when it is again moved around and around in the grater for a considerable period.

I am aware that heretofore devices have been made for breaking up material in which a screw conveyer forces the material through perforations; but my device differs from these in that practically the entire action is a grating or cutting one, very little, if any, of the breaking of the material being accomplished by conveying it forward and squeezing it out through the holes. My device is not a squeezing machine, but is rather a true grater or cutter having an automatic material feed.

It will be obvious that the shape and size of the openings in the conical grater can be varied to produce different shapes of material. The perforations shown in all the figures but 5 and 6 are adapted to produce portions of material rather long and of comparatively small cross-section, such, for instance, as the vegetables ordinarily used in making French fried potatoes. In Figs. 5 and 6 I have shown a modified form of grater suitable for slicing the material. In this device instead of a plurality of perforations one single elongated perforation is provided, the same having one depressed cutting edge, as has each of the perforations in the other form of grater.

I realize that considerable variation is possible in the details of this construction without departing from the spirit of the invention, and I therefore do not intend to limit myself to the specific form herein shown and described.

I claim as new and desire to secure by Letters Patent—

1. In a device of the class described, the

combination with a frame, of a conical grater secured thereto said grater having a suitable perforation in its side through which the material can be forced, a cutting edge on one side of said perforation, a spiral conveyer adapted to conduct material through said grater and means for retarding the forward movement of the material from time to time as it passes through said grater, whereby the material is reduced in size by contact with the walls of the grater before passing onward.

2. In a device of the class described, the combination with a suitable frame, of a conical grater secured thereto, said grater having a perforation in its wall, a cutting edge on one side of said perforation, a spiral conveyer adapted to advance the material through said grater, the spiral of said conveyer being formed with a plurality of steps of high pitch,

whereby the advance of the material through the grater is arrested periodically.

3. In a device of the class described, the combination with a frame, of a hollow conical grater detachably secured thereto, having a perforation in its wall, a cutting edge on one side of the perforation, a spiral conveyer within said grater, said conveyer being constructed with a plurality of steps of steep pitch, whereby the forward movement of the material through the grater is arrested periodically.

In witness whereof I have signed the above application for Letters Patent at Cologne, Germany.

JEAN NEUKIRCHEN.

Witnesses:

WILLIAM KUEPPERS,
JOH. SCHÖLZ.