

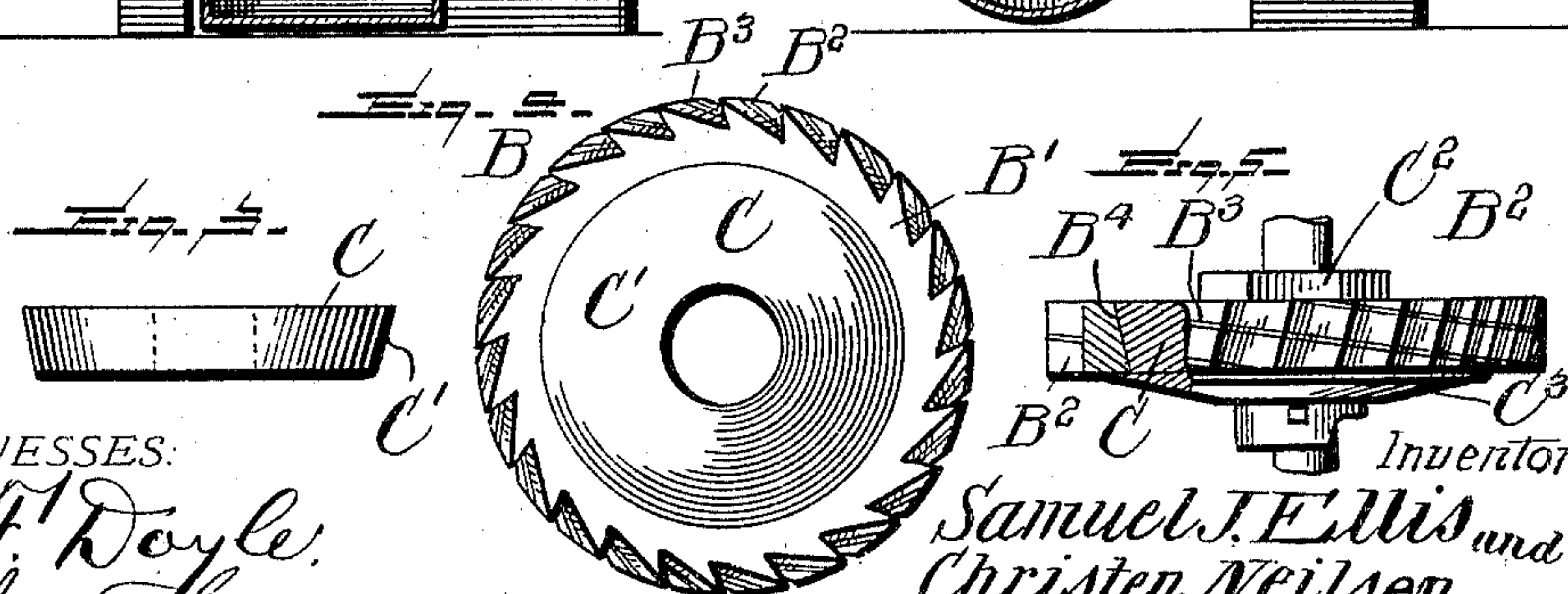
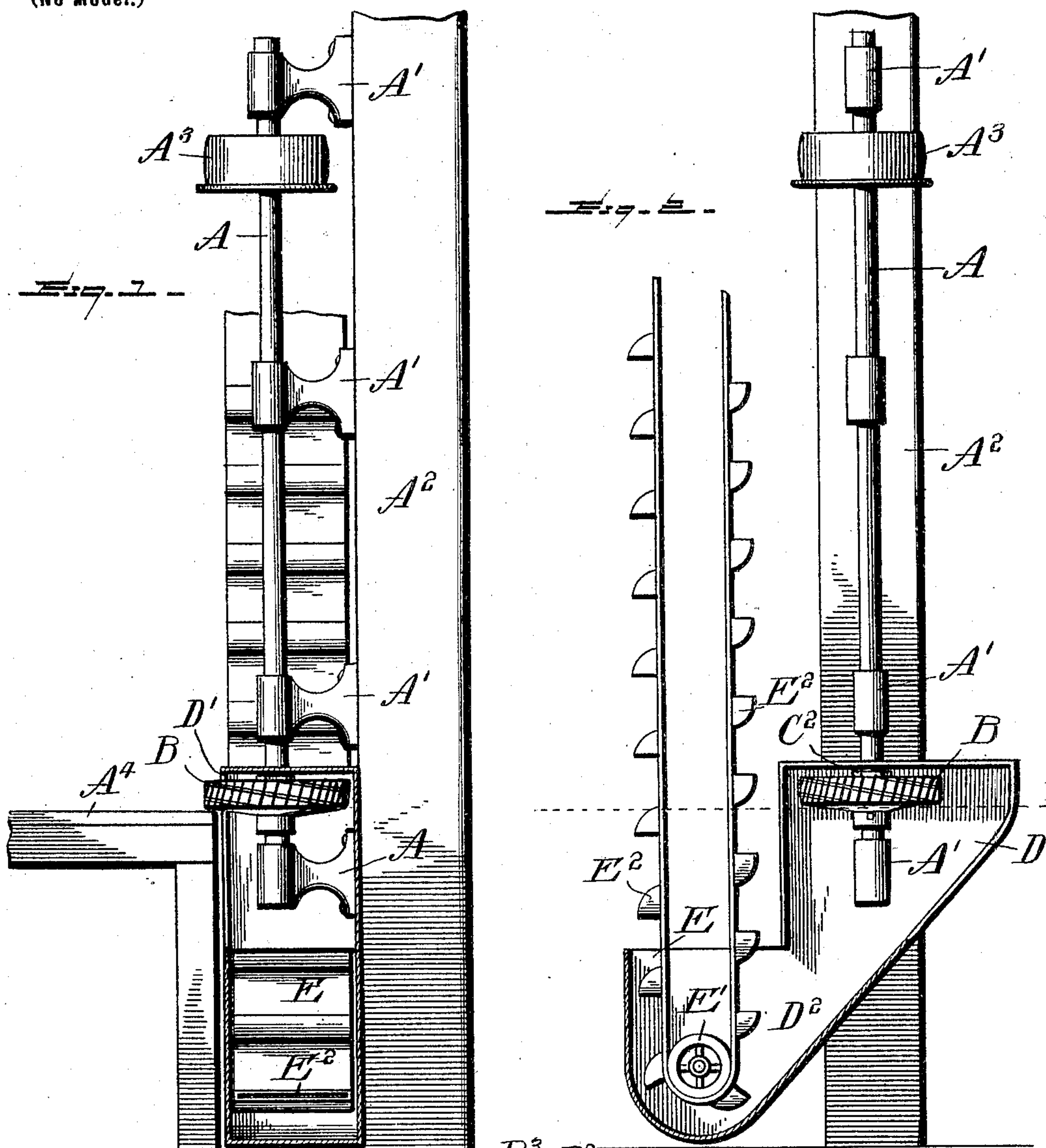
No. 709,760.

Patented Sept. 23, 1902.

S. J. ELLIS & C. NEILSEN.  
SEED CAKE TRIMMER.

(Application filed Nov. 28, 1901.)

(No Model.)



WITNESSES:

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# UNITED STATES PATENT OFFICE.

SAMUEL J. ELLIS AND CHRISTEN NEILSEN, OF MEMPHIS, TENNESSEE.

## SEED-CAKE TRIMMER.

SPECIFICATION forming part of Letters Patent No. 709,760, dated September 23, 1902.

Application filed November 26, 1901. Serial No. 83,743. (No model.)

*To all whom it may concern:*

Be it known that we, SAMUEL J. ELLIS and CHRISTEN NEILSEN, citizens of the United States, residing at Memphis, in the county of Shelby, State of Tennessee, have invented certain new and useful Improvements in Seed-Cake Trimmers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a seed-cake trimmer, and particularly to the construction of the cutter-head and adjacent parts.

An object of the invention is to trim the soft edges from cotton-seed oil-cakes and finely grind the particles in the trimming action, so that they shall be in condition for again pressing without further grinding and the cake left in the best possible condition.

A further object of the invention is to provide a cutter-head adapted in its action to hold the cake upon a table and remove the edge therefrom by a grinding action which finely divides the particles removed from the cake.

Another object of the invention is to provide an improved construction of guard and dust-collector cooperating with a conveying-carrier for removing the trimmings caught by the collector.

Other and further objects of the invention will be hereinafter set forth, and the novel features thereof defined by the appended claims.

In the drawings, Figure 1 is a side elevation of the invention with the dust-collector in section. Fig. 2 is a front view thereof; Fig. 3, an elevation of the disk secured to the driving-shaft. Fig. 4 is a plan of the cutter-head, and Fig. 5 is a side elevation thereof with parts in section.

Like letters of reference refer to like parts throughout the several figures of the drawings.

The letter A designates a vertical shaft supported in a series of bearings A', extending from any fixed support—for instance, from a standard or beam A<sup>2</sup>—and provided at its upper end with a driving-pulley, to which power may be communicated from any suitable source. The lower end of the vertical shaft A is provided with a cutter-head B, disposed opposite the edge of a table or support A<sup>4</sup> and

slightly overlapping said edge, so as to contact with a cake carried by said table. Any suitable means may be employed for supporting and moving the cake upon the table.

The cutter-head B is composed of an annular metallic ring B', having upon its outer periphery a series of teeth B<sup>2</sup>, disposed transversely, extending from the upper portion of the head downwardly. Ordinarily these teeth would cut or grind away the edge of the cake, leaving comparatively large particles of material. For the purpose of finely dividing or practically pulverizing the material a series of grooves B<sup>3</sup> are extended spirally upon the periphery of the cutter-head and through said teeth at substantially a right angle to the angle of the teeth, by which a number of independent cutting surfaces or edges are provided, so that the material removed from the cake is very finely divided and in proper condition to be again pressed. The teeth B<sup>2</sup> are not parallel with the axis of the cutter, but are inclined diagonally to said axis, so that the pitch of the forward angle holds the cake with a slight pressure against the table A<sup>4</sup> in the contact of the cutter therewith, thus preventing the jarring and breaking during the cutting operation. The cutter-head may be secured to the shaft A in any desired manner—for instance, by means of a disk C, having beveled edges C', adapted to frictionally engage a similar beveled face B<sup>4</sup> upon the inner periphery of the cutter, as shown in Fig. 5. This disk is secured to the shaft A and adapted to bear against a collar C<sup>2</sup>, while the cutter-head may be forced thereon and secured in position by a plate C<sup>3</sup>, provided with any desired securing means—for instance, by clamping the parts together.

Surrounding the cutter-head a guard and dust-collector D is provided and has an opening D' at its front through which the cutter projects. This guard is provided at its lower portion with an inclined wall discharging into a receptacle D<sup>2</sup>, adapted to receive the collected trimmings, which may be removed therefrom by any desired means—for instance, an elevator-boot E, having a roller-bearing E' within the collector and provided with buckets E<sup>2</sup> for removing the material to any suitable point of delivery.

In the operation of the invention it will be



seen that the rigid vertical shaft carrying the cutter-head constructed as described will remove from the edge of the cake next the cutter the desired trimmings, which are very  
5 finely divided or ground, so as to be capable of re-pressing without any further grinding action. The material thus trimmed from the cake is carried downward by the inclination of the teeth B<sup>2</sup>, which also tend to retain the  
10 cake upon the table, and by the inclined wall of the collector carried to the portion D<sup>2</sup> and there removed by a conveyer or any desired means. By this construction of parts the usual necessity for the further grinding of  
15 material is avoided and the trimmings at once collected and retained, so as to insure a saving in the labor involved in the trimming operation, which results are attained by the very simple and efficient construction of parts.

20 It is obvious that changes may be made in the details of construction and configuration without departing from the spirit of the invention as defined by the appended claims.

Having described the invention and set  
25 forth its merits, what is claimed is—

1. In a seed-cake trimmer, a support, a vertically-disposed driving-shaft at one side thereof, and a cutter-head thereon provided with teeth disposed diagonally to the plane  
30 of the support; substantially as specified.

2. In a seed-cake trimmer, a support, a vertically-disposed driving-shaft at one side thereof, a cutter-head thereon provided with

teeth disposed diagonally to the plane of the support, and a series of grooves extending  
35 laterally of said teeth and through the same; substantially as specified.

3. In a seed-cake trimmer, a support, a vertically-disposed driving-shaft at one side thereof, a cutter-head thereon at one side of  
40 said support and provided with teeth disposed diagonally to the plane of the support, and a series of grooves extending laterally of said teeth and through the same at substantially  
45 a right angle to the inclination thereof; substantially as specified.

4. In a seed-cake trimmer, a support or table, a vertical driving-shaft at one side thereof, a toothed cutter-head carried by said shaft, and provided with teeth disposed diagonally to the plane of said support, a guard  
50 having an opening next said support and surrounding said head, an inclined discharging-wall to said guard beneath the head, an open collecting-receptacle to receive from the lower  
55 end of said wall, and a conveyer adapted to remove material from said collecting-receptacle and having a roller-bearing therein; substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

SAMUEL J. ELLIS.  
CHRISTEN NEILSEN.

Witnesses:

WM. C. ELLIS,  
W. J. ELLIS.