

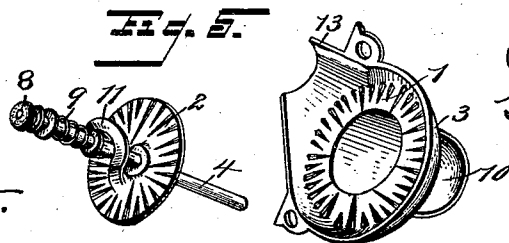
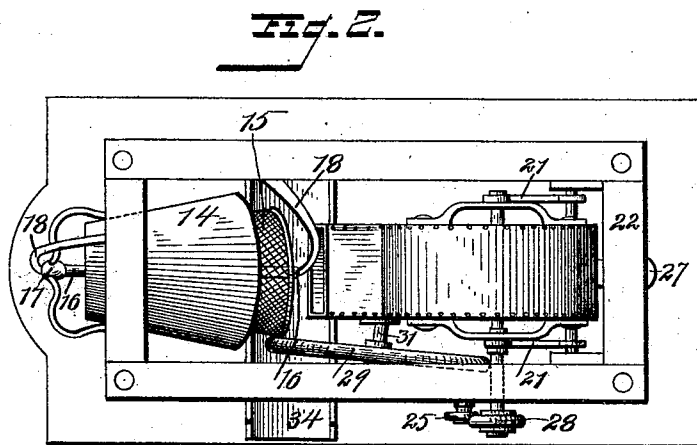
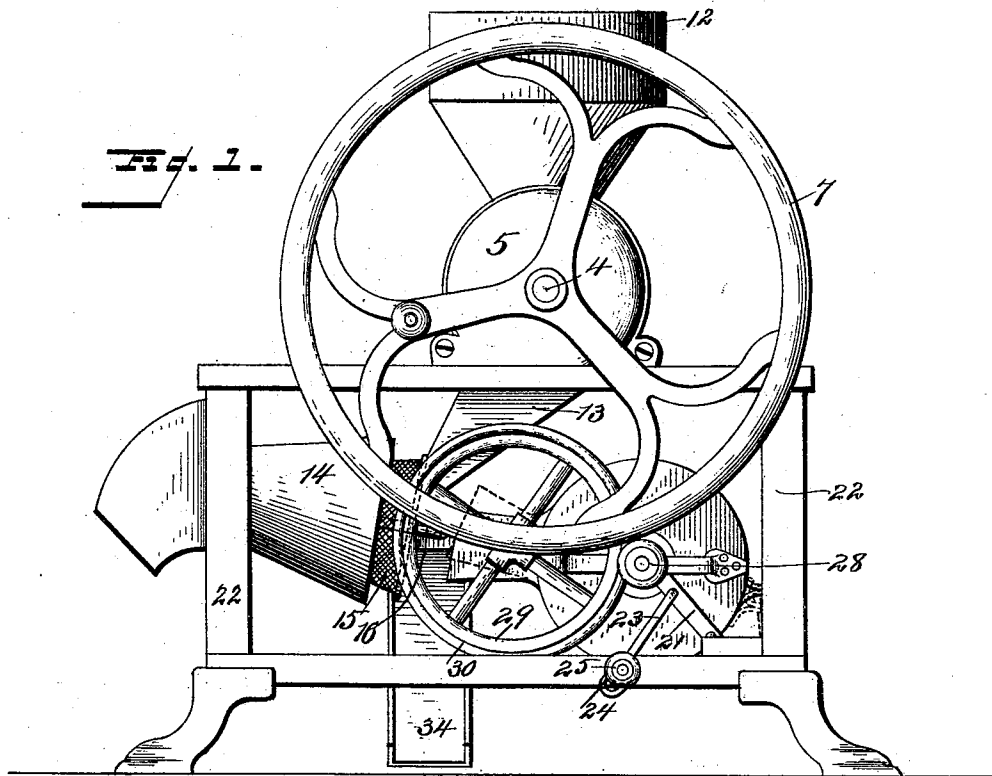
(No Model.)

2 Sheets—Sheet 1.

C. H. GOLLING & G. W. LEA.
PEANUT SHELLER AND SEPARATOR.

No. 512,288.

Patented Jan. 9, 1894.



WITNESSES

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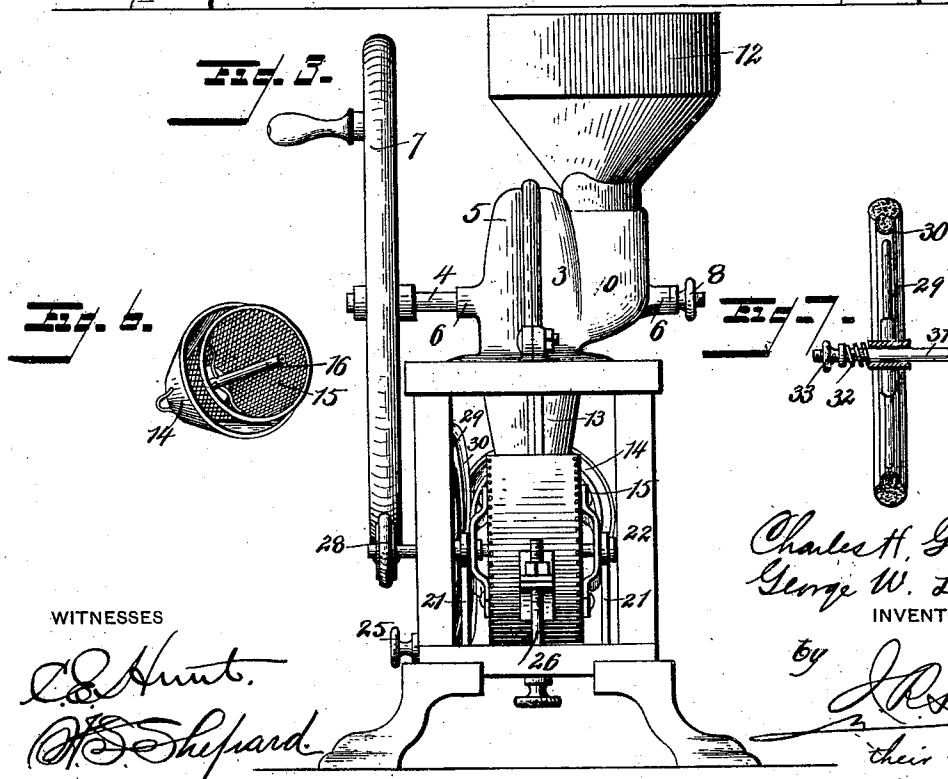
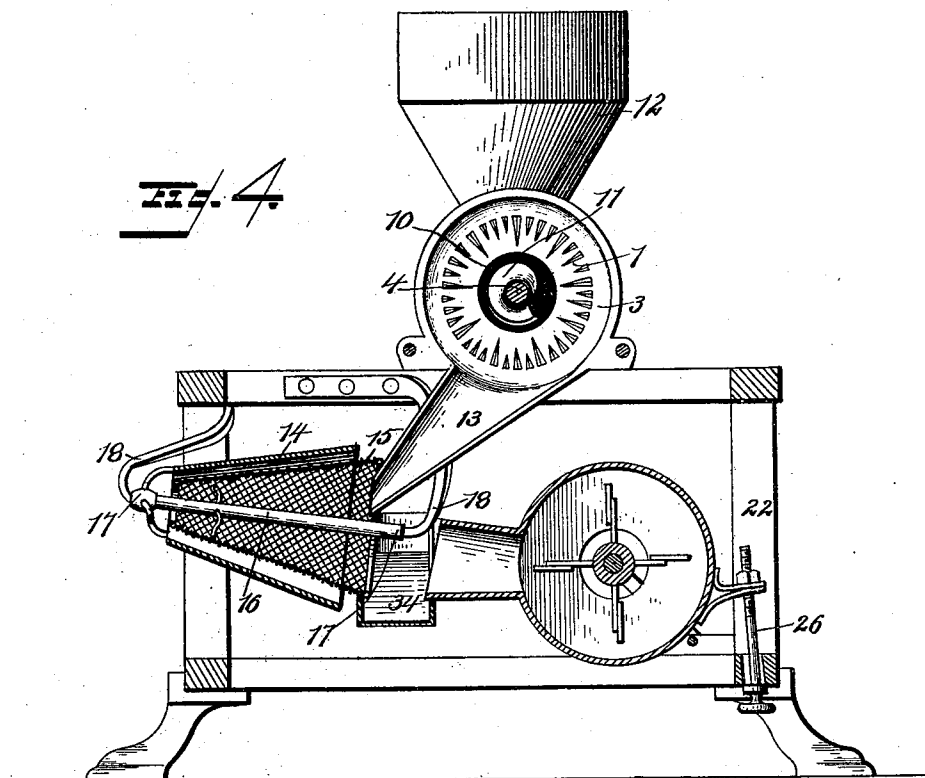
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2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

CHARLES H. GOLLING AND GEORGE W. LEA, OF NEVADA, OHIO.

PEANUT SHELLER AND SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 512,288, dated January 9, 1894.

Application filed March 13, 1893. Serial No. 465,765. (No model.)

To all whom it may concern:

Be it known that we, CHARLES H. GOLLING and GEORGE W. LEA, citizens of the United States, residing at Nevada, in the county of Wyandot and State of Ohio, have invented certain new and useful Improvements in Peanut Shellers and Separators; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to a new and improved peanut sheller and separator, and consists in a device for breaking or crushing the shells of the nuts, separating the kernels from the shells, hulls, and other débris, and assembling and delivering the kernels in a rapid and efficient manner by a single continuous operation.

The various objects and advantages of the invention will appear in the following description, and the features constituting the essential elements and novelty of the invention are substantially embraced in the appended claims.

In the accompanying drawings, forming a part of this specification:—Figure 1 is a side view of an apparatus embodying our invention. Fig. 2 is a top plan view, with the hopper and crushing mechanism removed. Fig. 3 is an end elevation of Fig. 1. Fig. 4 is a central vertical sectional view. Fig. 5 is a detail view of the breaking or crushing mechanism, with the members thereof detached. Fig. 6 is a detail view of the conical screen or riddle forming a part of the separating mechanism. Fig. 7 is a detail view of the intermediate friction wheel.

In all the figures of the drawings, like numerals of reference indicate like or corresponding parts.

In carrying out our invention in practice, we employ crushing or breaking mechanism for performing the initial step of opening the shells and liberating the nuts, the preferred construction of such mechanism, as illustrated, consisting of mutually co-operating burrs or members, 1 and 2, between the opposing ribbed or roughened faces of which the nuts are fed and carried by a positively operating feed-mechanism. The burr or member 1 is preferably stationary or fixed, and is

secured in one section, 3, of the shell which incases the crushing devices. The moving burr or member 2 is provided with a supporting shaft, 4, to which it is keyed, which shaft extends axially through the stationary or fixed member or burr 1. The section 5 of the inclosing shell is removably connected to the section 3, as shown; and in registering bearings, 6, in said sections, is mounted for rotation the shaft 4. Fixed to one end of this shaft is a driving wheel, 7, and to the same shaft is attached an adjusting device to vary the space between the opposing faces of the burrs and thus regulate the pressure imposed upon the nuts. Such adjusting device consists of the thumb-nuts 8, threaded upon the rear end of the said shaft. We also employ a restraining device to prevent the burrs from coming in contact and to normally maintain the same at a prescribed distance apart, which device may be a spring, 9, coiled upon the shaft, at one end engaging a fixed projection upon the shaft and at the other extremity engaging a stationary object, such as a fixed part of the shell. —

It is desirable, in order to obtain a steady and even operation of the apparatus, to provide a positive feeding mechanism, and to attain this end we construct the crushing apparatus with an axial cylindrical conveyer, 10; and within this conveyer is a spiral feeding web, 11, fixed to the shaft of the rotatable burr. This web fits rotatably in the conveyer, extends to the face of the rotatable burr, and is hollow or in skeleton form, as shown, to avoid crowding the crushing mechanism beyond its capacity.

A receiving hopper, 12, communicates with the shell of the crushing mechanism to convey the whole nuts thereto, and a chute, 13, is provided to deliver the broken nuts to the separator. This separator comprises an outer conical sheet-metal shell or casing, 14, and an inner conical screen or riddle, 15, inclosed in said shell or casing, the whole device being suitably mounted for rotation, and motion being communicated thereto from the driving wheel by intervening means which we term "connections." The shell, 14, and riddle, 15, are secured rigidly together at their rear reduced ends, and extending centrally through the same is a spindle, 16, provided with termi-

nal socket-bearings, 17, to receive the supporting centering pins, 18. The enlarged end of the screen or riddle may be furnished with an inturned flange, to prevent the premature escape of the nuts which are delivered therein by the chute, 13.

The rotary fan or blower, which is for the purpose of producing an air current or blast through the separator, is so mounted as to be capable of adjustment to vary the direction of discharge of such air blast. This we accomplish by fixing bearing cups to receive boxes of the fan-shaft, said bearing cups being attached to supporting arms, 21. The supporting arms are pivotally connected to the frame, 22, and are held in the desired inclination by an extensible brace, 23, having an elongated slot, 24, engaged by a set screw, 25. Connected to the rear end of the fan-casing is an adjusting rod, 26, which extends vertically through a permanent or fixed part of the frame and is controlled by a thumb-nut, 27. This construction constitutes adjusting means whereby the mouth of the fan-blower may be elevated or depressed to vary the direction of the discharge of the air; but it is manifest that other adjusting mechanism may be adopted in lieu thereof. Motion is communicated to the fan-shaft by means of a friction roll, 28, carried by the former and contacting with the driving wheel; and the connections by which motion is transmitted to the separating mechanism consist of an intermediate friction wheel, 29, having a frictional tread or periphery, preferably faced with rubber, contacting with the fan shaft, and a flexible frictional flange, 30, projecting from the periphery of the wheel 29 and engaging the surface of the casing of the screen or riddle. This flange 30 is preferably an extension of the rubber facing of the wheel 29. The friction wheel, 29, is mounted upon a spindle, 31, carried by the fan-casing, and a tension-spring, 32, and adjusting nut, 33, constitute tension devices to preserve the frictional contact of the wheel with the separator casing.

The inside screen of the separator is a receiving or accumulating receptacle whereby the kernels are collected and deposited in the delivery-spout, 34, for conveyance to a suitable receiver forming no part hereof.

The operation of the various parts, having been indicated in connection with the foregoing detailed description, will be readily understood by those skilled in the art to which our invention appertains.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a device of the class described, the combination, with suitable feeding and driving mechanisms, of a crushing or breaking mechanism comprising a fixed burr, formed on the interior of the shell or casing a rotatable

movable burr mounted on a shaft capable of a prescribed play or reciprocation, and a spring regulating device on the end of the said shaft to prevent contact of the faces of the burrs, substantially as set forth.

2. In a device of the class described, the combination, with suitable feeding and driving mechanisms, of a crushing or breaking mechanism comprising a fixed burr, formed on the inner side of a member of a separable shell a rotatable movable burr, an axially-movable and adjustable shaft carrying the latter burr, and a sectional removable shell or casing inclosing the said burrs, substantially as set forth.

3. In a device of the class described, the combination, with suitable feeding and driving mechanisms, of a crushing or breaking mechanism comprising a fixed and movable burr, an axially-slidable shaft carrying the movable burr, a cylindrical conveyer, and a spiral feeding web projecting horizontally from and formed integral with the inner face of the movable burr and eccentric of the said shaft, substantially as set forth.

4. In a device of the class described, the combination, with suitable feeding and driving mechanisms, of a crushing or breaking mechanism comprising a section of a shell or casing formed into a fixed roughened crushing burr on its inner side, a movable burr carried by an axially-movable shaft, and another section of the shell or casing removably secured to the first mentioned section and surrounding the interior movable burr, substantially as set forth.

5. In a device of the class described, the combination, of the gravitating rotary screen or riddle, an axially-movable fan-blower having its discharge end in operative relation to said screen, and means for adjusting the discharge opening of the blower, said means consisting of an extensible and adjustable brace for the supports of the blower and an adjusting rod to move the blower on its axis or swivel, substantially as set forth.

6. In a device of the class described, the combination, with crushing mechanism, a driving wheel operatively connected to said mechanism, a rotary separator, and a fan-blower, of a friction roll carried by the shaft of said fan-blower and in contact with the driving wheel, and a friction-wheel in operative contact with the shaft of the fan-blower and the surface of the separator, substantially as set forth.

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

CHARLES H. GOLLING.
GEORGE W. LEA.

Witnesses:

HARMAN HERO,
M. M. KELTNER.