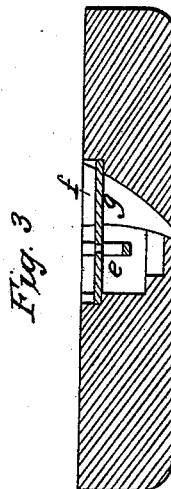
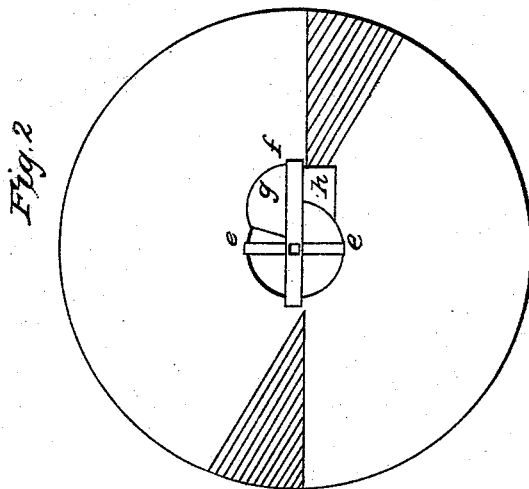
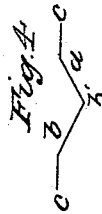
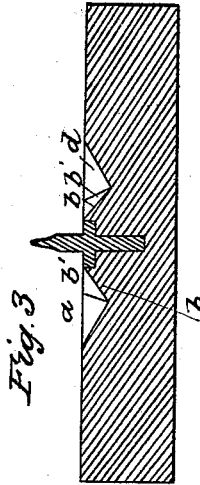
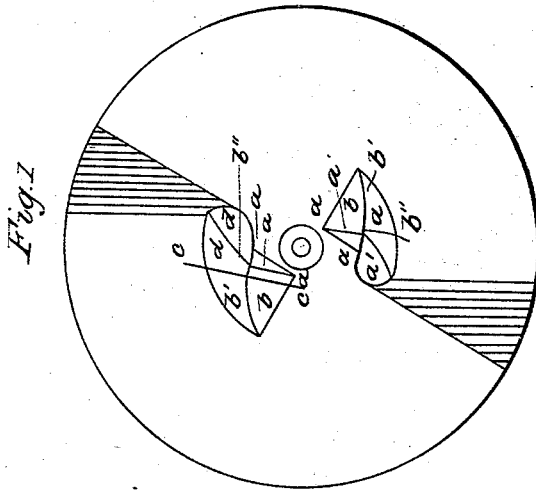


E. A. KNOWLTON.  
Grinding Corn Cobs, &c.

No. 3,908.

Patented Feb. 12. 1845.



# UNITED STATES PATENT OFFICE.

E. A. KNOWLTON, OF COLUMBIA, SOUTH CAROLINA.

MILL FOR GRINDING CORN AND COBS, SHUCKS, AND OTHER SIMILAR SUBSTANCES.

Specification of Letters Patent No. 3,908, dated February 12, 1845.

To all whom it may concern:

Be it known that I, E. A. KNOWLTON, of Columbia, in the county of Richland and State of South Carolina, have invented a new and useful improvement in mills for grinding corn and cobs, which improvements are also applicable to the grinding of corn cobs and shucks and cotton-seed; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, which in Figure 1, represents a plan of the bed stone; Fig. 2, the under face of the runner; Fig. 3, a section through both stones.

Several inventions have been made to combine the grinding of corn and cobs by inserting knives in the bed stone of grist mills and also in the runner thereof but they have all had some practical difficulty either in the complication or expense of construction or in clogging; my improvements are for the purpose of obviating these defects, and grinding more rapidly than by the means heretofore used.

The construction of my improvements is as follows: From near the outer circumference of the bush, around the spindle, I cut down into the stone about one inch in depth on a tangent line (*a a*) to said bush forming a shoulder along said line and nearly perpendicular from the bottom of which line or shoulder I cut out an inclined plane *b*, about one quarter round, to the surface of the stone; on the outer circumference (*b'*) of this inclined plane which terminates at *b''*, on the outer end of line (*a*) and is curved as shown in the drawing. The stone is cut away so as to present an inclination as clearly represented in Fig. 4 which is a section at the red line *c, c*, of Fig. 1, *d*, being the inclination outward from the plane, *b*. This extends beyond the end of the shoulder *a, a*, where it terminates in a curved scallop *d'* which extends from the surface down to the point where the planes (*a', b & d*.) meet at *b''*. By this form all the material that is fed into the mill is carried with certainty in between the stones without clogging. The runner is formed similar to those now in common use with a

curved balance iron (*e*) and a common driver (*f*). The eye of the stone is stopped with a block of wood at its upper part which has a hole through it inclining to one side to direct the ears of corn into the mill. In front of the driver a recess is formed on one side of the eye of the stone as shown at *g*, in Fig. 2, the driver *f* being made longer on that side so as to fit into the socket formed in the stone outside the recess *g*. Behind the driver on the same side of the eye the stone is chamfered off as shown in the drawing and marked *h*.

The operation of this apparatus is as follows: The ears of corn in the shuck or not are thrown in, pass down through the hole in the block in the upper part of the eye of the runner and fall down with the end projecting into the recess *a, a*, above described in the bed stone in front of the driver *f* between which and the shoulder *a, a*, it is broken in two pieces and in consequence of there being room given to it by the recess *g*, it falls flat and is immediately carried under the stone if the ear of corn is very short it is not broken at all before it falls and is at once carried under the stone and is crushed which method is found to grind much more expeditiously than the apparatus that holds the ear on end and cuts it into small pieces as it grinds.

Having thus fully described my improvements in grinding corn and cobs &c I wish it to be understood that I do not claim the cutting or breaking of the same as that has before been done by knives or other similar apparatus but

What I do claim as my invention and for which I desire to secure Letters Patent is—

The inclined recess *d*, outside the inclined plane *b*, and the end of the shoulder *a, a*, constructed in the manner and for the purpose herein set forth, and in combination therewith I claim the recess in the runner on one side of the eye of the stone as above described.

E. A. KNOWLTON.

Witnesses:

J. J. GREENOUGH,  
RICHARD KEY WATTS.