

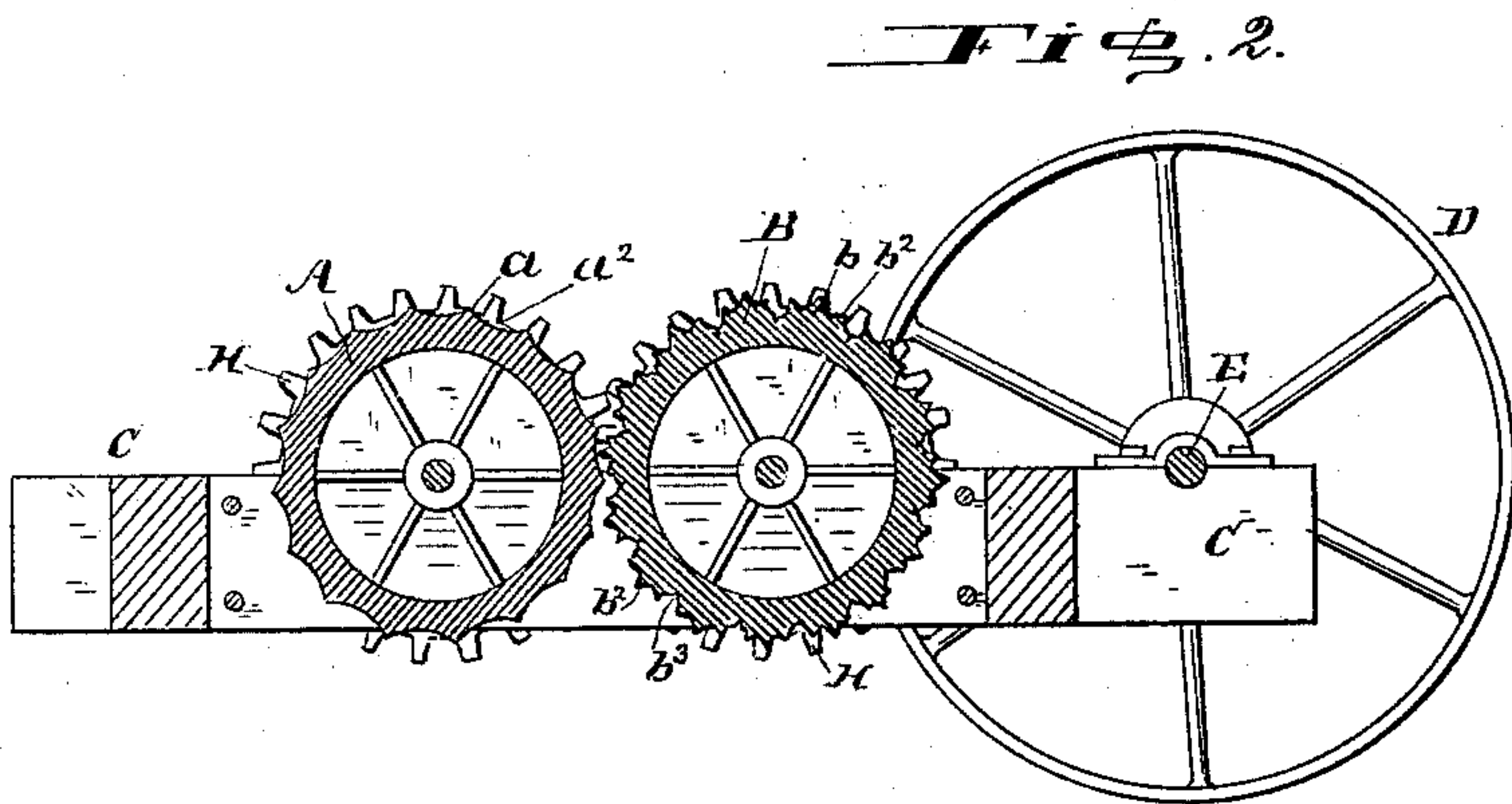
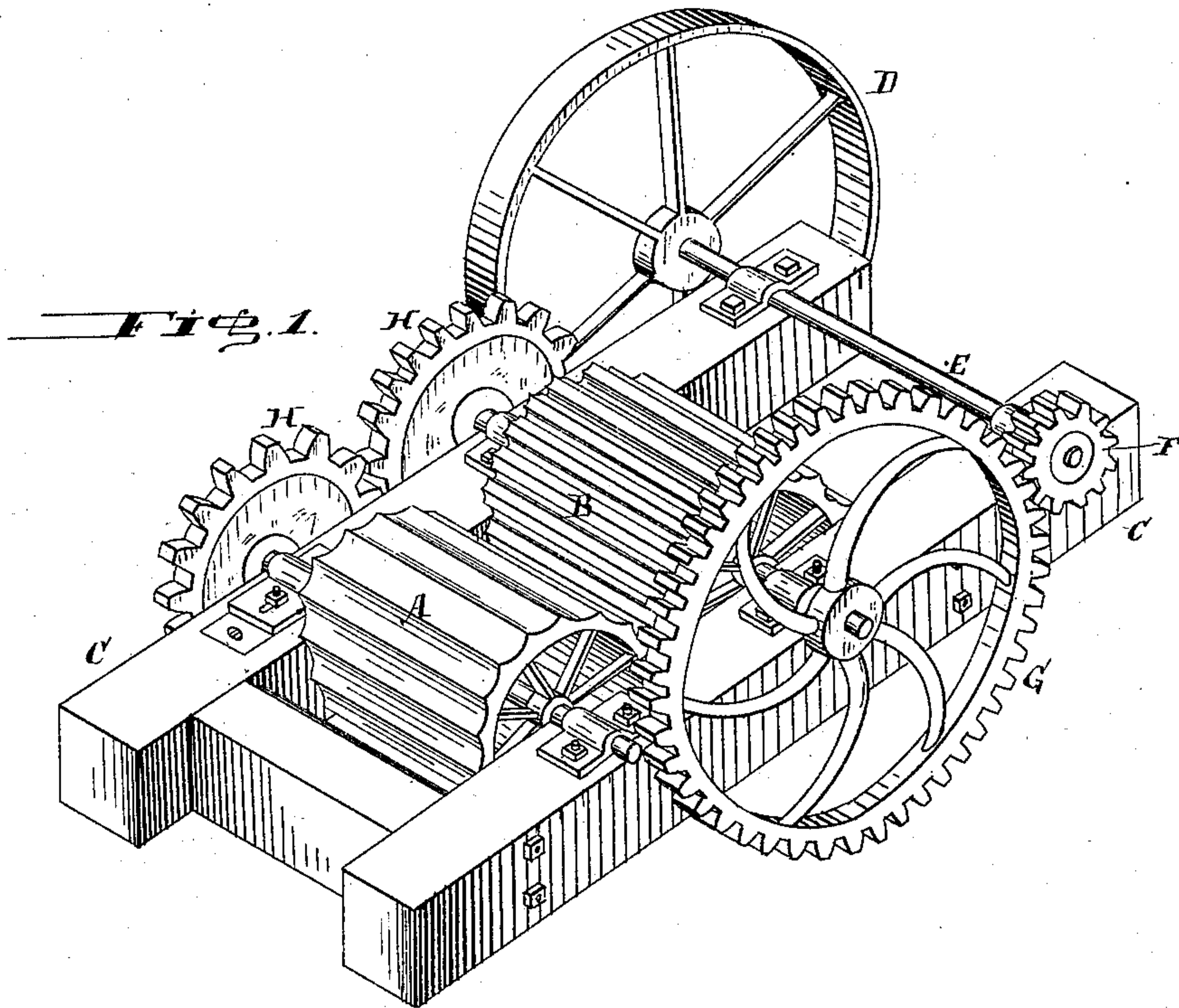
(No Model.)

E. A. PORTER.

CORN CRUSHING AND SPLITTING MACHINE.

No. 285,512.

Patented Sept. 25, 1883.



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# UNITED STATES PATENT OFFICE.

EUGENE A. PORTER, OF BOWLING GREEN, KENTUCKY.

## CORN CRUSHING AND SPLITTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 285,512, dated September 25, 1883.

Application filed May 19, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, EUGENE A. PORTER, a citizen of the United States, residing at Bowling Green, in the county of Warren and State of Kentucky, have invented certain new and useful Improvements in Corn Crushing and Splitting Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

The object of the present invention is to provide a mill or machine for cutting and splitting corn or maize in the husk and ear for preparing it for cattle food, the machine being of such construction that the corn, in contradistinction to being ground into a pulpy mass, is crushed and split into small pieces to avoid the waste which occurs when the corn is fed in the ear, and also to enable the cattle to eat it better.

To these ends the invention consists in a machine of the construction hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of a corn crushing and splitting machine constructed according to my invention. Fig. 2 is a cross-section taken through the pair of crushing and splitting rollers.

The details of construction are as follows:

The pair of rollers A B are provided with longitudinal ribs and depressions or channels of the special configuration hereinafter set forth, and are mounted in a suitable framework, C. In the present instance two longitudinal beams and two cross-beams constitute this frame-work; but it is obvious that the rollers or the working parts of the machine may be arranged or supported in any other approved manner. The rollers are preferably parallel to each other in the same horizontal plane, and have journals which turn in suitable boxes on the side beams of the frame. The mechanism for imparting a positive movement to the rollers consists of a band-wheel, D, driving-shaft E, small cog-wheel or pinion

F, large cog-wheel G, and intermeshing spur-wheels H, on one end of the roller-shafts. The band-wheel and pinion are arranged on the driving-shaft, and the large cog-wheel G on the end of the first roller-shaft meshes into this pinion, and the first roller driven in this way operates the second roller through the medium of the intermeshing spur-wheels H.

While the driving mechanism just described is that preferably or generally adopted, I do not propose to limit myself to the same, as I may use other devices for giving a positive movement to the rollers. The configuration or form of these rollers (shown more clearly in Fig. 2) is designed to effect the reduction of the corn-cob into small pieces or strips, the roller A being provided with sharp ribs  $a$ , and with concave channels or grooves  $b^2$  between these ribs. The other roller, B, has convex ribs  $b$ , which are provided with sharp ribs or fillets  $b^2$ , generally three in number. These ribbed convexities of the roller B are of the same width as the concavities of the roller A, so that these parts will register with each other, and the sharp ribs  $a$  of the roller A enter or fit into the narrow grooves or depressions  $b^3$ , formed between the convexities of the roller B, as is clearly indicated in Fig. 2. It will be seen that the two rollers are placed at such relative distances apart that the ribs or fillets  $b^2$  of one roller touch the bottom of the concavities in the other roller. Thus it will be manifest that when corn or maize in the husk and ear is introduced between the two rollers the sharp ribs of the first roller, in connection with the opposing channels of the other roller, will split the corn or reduce it into strips, and the convexities, with their fillets or sharp ribs, will, in connection with the aforesaid concavities, break or crush these strips and still further reduce them into smaller strips, pieces, or slivers. In this manner it follows that the product of the machine is corn reduced to such a condition that cattle can easily eat the same, there existing also other advantages which will be manifest.

I make provision for the adjustment of the rollers to allow for cutting the corn into larger or smaller pieces, and generally effect this adjustment, without throwing the rollers out of

gear, by providing slotted bearing-boxes for the first roller, A, and spur-wheels having long teeth, as is shown in Fig. 1.

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

The herein-described machine for crushing  
and splitting corn, essentially consisting of the  
frame C, the roller A, having sharp ribs  $a$  and  
10 concave channels  $a^2$ , and the roller B, provided

with convex main ribs  $b$ , narrow grooves  $b^3$ ,  
and sharp ribs or fillets  $b^2$ , as and for the pur-  
pose set forth.

In testimony whereof I affix my signature in  
presence of two witnesses.

EUGENE A. PORTER.

Witnesses:

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