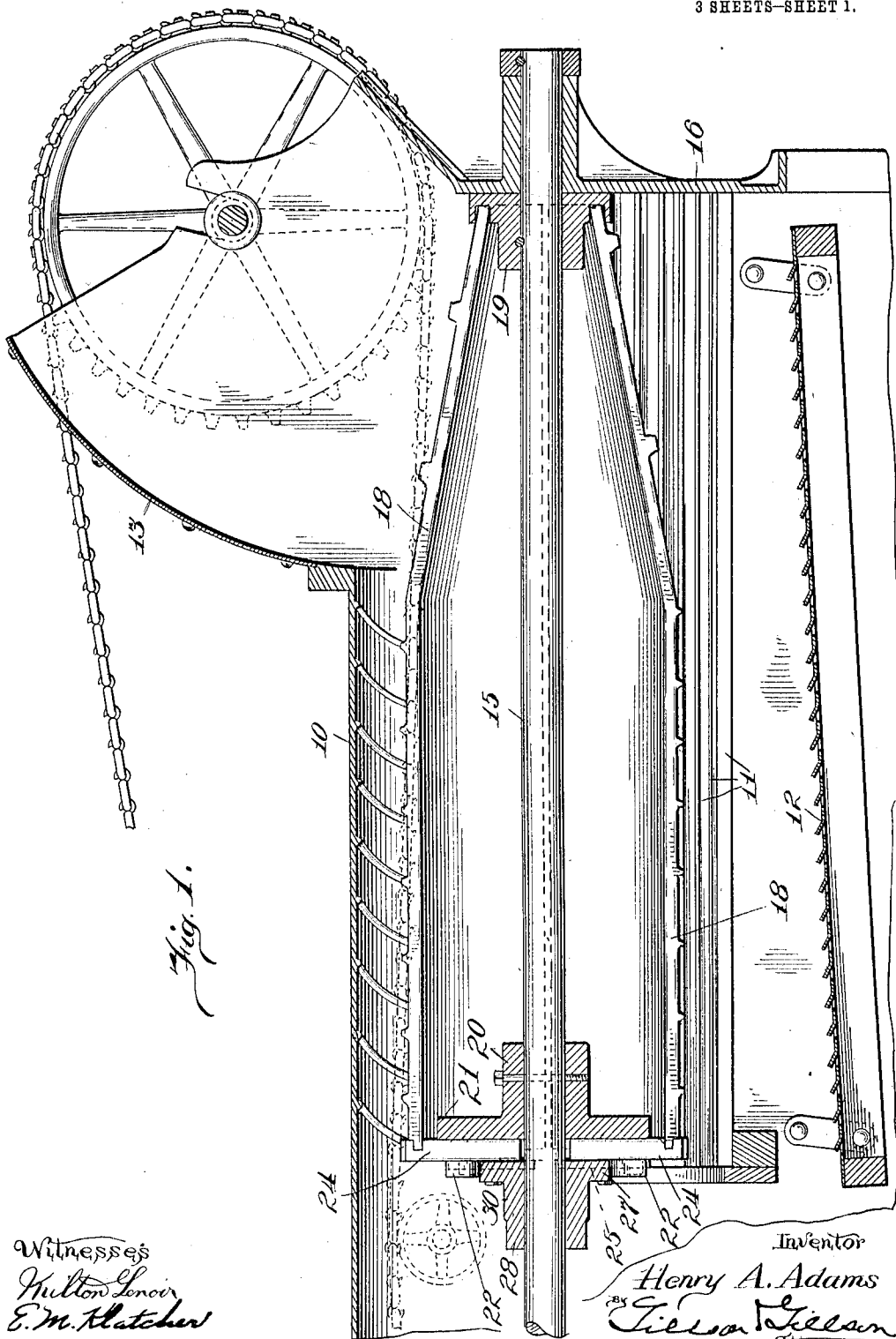


H. A. ADAMS.
CORN SHELLER.
APPLICATION FILED JAN. 3, 1911.

1,055,436.

Patented Mar. 11, 1913.
3 SHEETS—SHEET 1.



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Fig. 1.

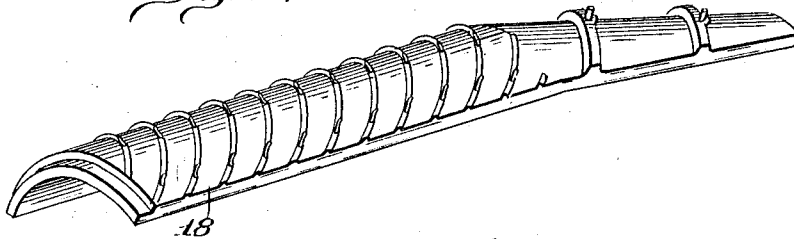
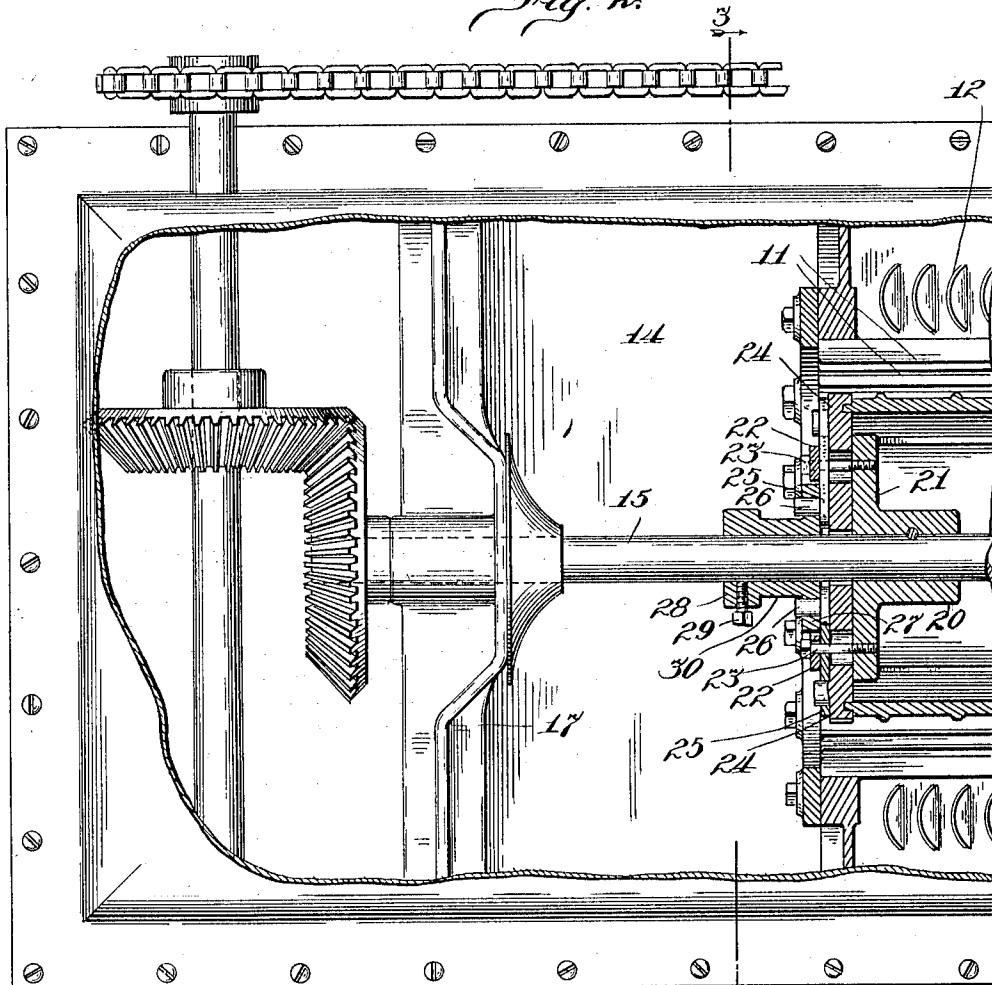


Fig. 2.



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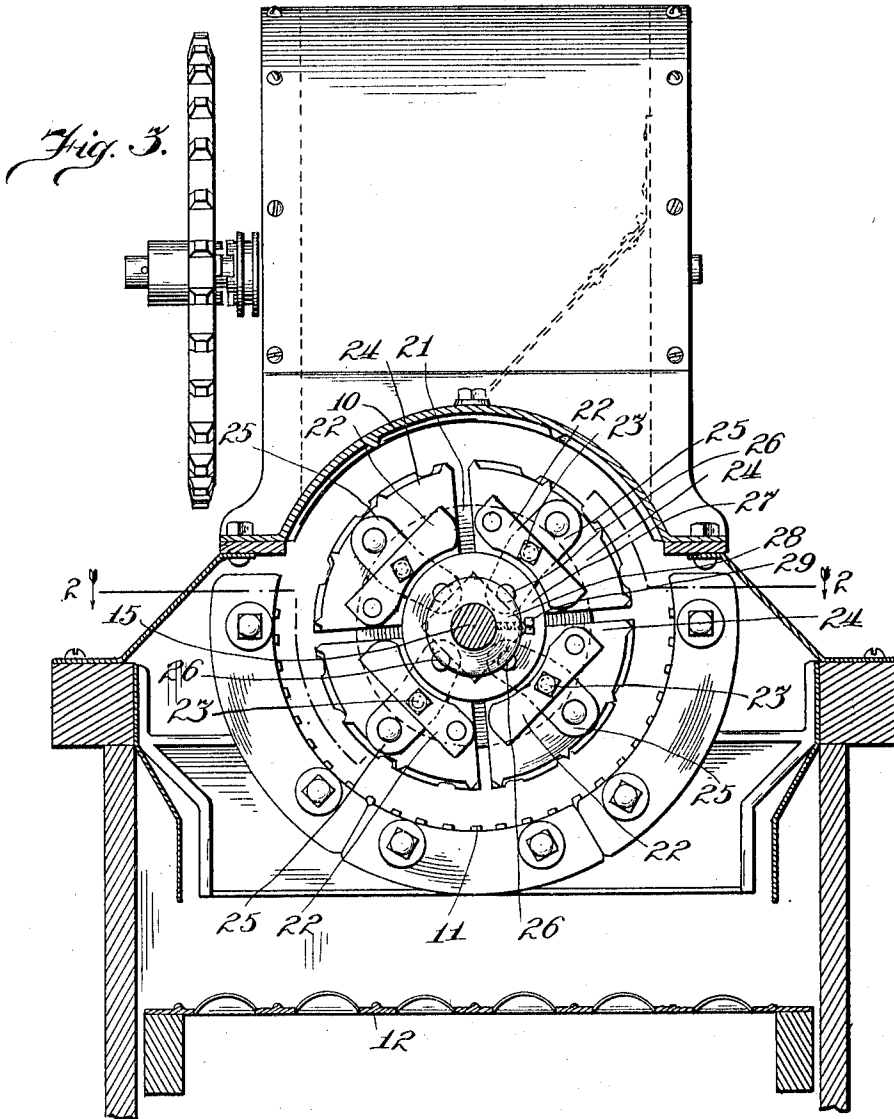
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UNITED STATES PATENT OFFICE.

HENRY A. ADAMS, OF SANDWICH, ILLINOIS, ASSIGNOR TO SANDWICH MANUFACTURING COMPANY, A CORPORATION OF ILLINOIS.

CORN-SHELLER.

1,055,436.

Specification of Letters Patent.

Patented Mar. 11, 1913.

Application filed January 3, 1911. Serial No. 600,506.

To all whom it may concern:

Be it known that I, HENRY A. ADAMS, a citizen of the United States, and resident of Sandwich, county of Dekalb, and State of Illinois, have invented certain new and useful Improvements in Corn-Shellers, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

The invention relates to that type of corn shellers in which the shelling operation is performed in a cylinder, within which is mounted a rotatable mandrel between which and the wall of the cylinder the ears are abraded.

The object of the invention is to provide an expansible mandrel, with means for adjusting it to properly proportion the space between the mandrel and wall of the cylinder to the average size of the ears being operated upon.

The invention consists in a structure such as is hereinafter described, and as illustrated in the accompanying drawings, in which—

Figure 1 is a detail longitudinal vertical central section of the sheller, taken through the shelling cylinder; Fig. 2 is a detail plan section of the machine showing the delivery end of the shelling cylinder and some of the parts beyond it; Fig. 3 is a detail transverse vertical section of the machine, taken on the line 3—3 of Fig. 2; and Fig. 4 is a detail in perspective of one of the plates of which the mandrel is composed.

The top 10 of the shelling cylinder is imperforate, its bottom portion 11 being in the form of a screen to permit the grain to escape upon a riddle 12. A feed hopper 13 delivers to the receiving end of the cylinder, and the cobs are discharged from the cylinder into a chamber 14, from which they are conveyed by any suitable mechanism.

Upon the axis of the shelling cylinder there is mounted a shaft 15, suitably journaled, as shown, at one end in the end wall 16 of the cylinder, and at the other end in the wall 17 of the cob-receiving chamber. Upon this shaft 15 the mandrel is mounted, this mandrel being composed of a plurality of segmental plates 18, as shown four in number, these plates being loosely secured at the receiving end of the cylinder in a head 19 fixed upon the shaft 15. At the delivery end of the cylinder there is fixed upon

the shaft 15 a hub 20, provided with a radial flange 21. To this flange 21 there are pivotally secured a plurality of carrying bars 22, one for each of the segmental plates, these bars being secured to the flange by means of studs 23 set therein. The bars 22 are spaced apart from the outer face of the flange 21 a sufficient distance to provide space for sector plates 24, within a suitable pocket in each of which the end of one of the plates 18 loosely fits. The sector plates 24 are apertured to accommodate the studs 23 and permit radial movement of the plates. Interposed between the outer faces of each of the sector plates and the corresponding bar 22 is a link 25, pivoted to both of these members, its inner end being pivotally attached, as shown at 26, to an outstanding flange 27 of the hub 28, fitted upon the shaft 15 and adjustably secured thereto by means of a set-bolt 29. A portion 30 of the hub 28 is squared for engagement by a wrench. When the hub 28 is so turned as to bring the links 25 to a radial position with reference to the shaft, the sector plates 24 are forced outwardly, thus expanding the mandrel. Upon turning the hub so as to bring the links 25 to tangential relation with the shaft, the sector plates are drawn inward, contracting the periphery of the mandrel, the bars 22 serving as guides. This adjustment becomes necessary only when the average size of any lot of ears to be operated upon differs from that of the material previously run through the machine. The head 19 of the receiving end of the shelling cylinder is smaller than the head of the mandrel at the discharge end. The mandrel as a whole tapers somewhat from the discharge end of the cylinder. This taper is, of course, increased by the expansion of the mandrel at the discharge end of the cylinder, thereby contracting the throat through which the cobs are discharged and insuring a perfect shelling action when the ears are small.

I claim as my invention—

1. In a corn sheller, in combination, a cylinder, a shaft journaled longitudinally within the cylinder, a mandrel comprising a plurality of segmental plates extending longitudinally of the shaft and being pivotally connected therewith adjacent the receiving end of the cylinder, means for radially adjusting the free ends of the plates,

and means for securing the plates in their adjusted positions.

2. In a corn sheller, in combination, a cylinder, a shaft journaled longitudinally within the cylinder, and an expansible mandrel carried by the shaft and comprising a plurality of segmental plates, a hub circumferentially adjustable about the shaft and being located adjacent the discharge end of the cylinder, and links connecting the plates with the hub.

3. In a corn sheller, in combination, a cylinder, a shaft journaled longitudinally within the cylinder, and an expansible mandrel carried by the shaft and comprising a plurality of segmental plates, a hub circumferentially adjustable about the shaft and being located adjacent the discharge end of the cylinder, sector plates arranged

about the hub and connected with the segmental plates, and links attached to the hub and to the sector plates.

4. In a corn sheller, in combination, a cylinder, a shaft journaled longitudinally within the cylinder, and an expansible mandrel carried by the shaft and comprising a plurality of segmental plates, a hub circumferentially adjustable about the shaft, sector plates arranged about the hub and connected with the segmental plates, a hub fixed upon the shaft, bars pivotally attached to such fixed hub, links attached to the sector plates and to the adjustable hub and pivotally attached to the bars.

HENRY A. ADAMS.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."