

(No Model.)

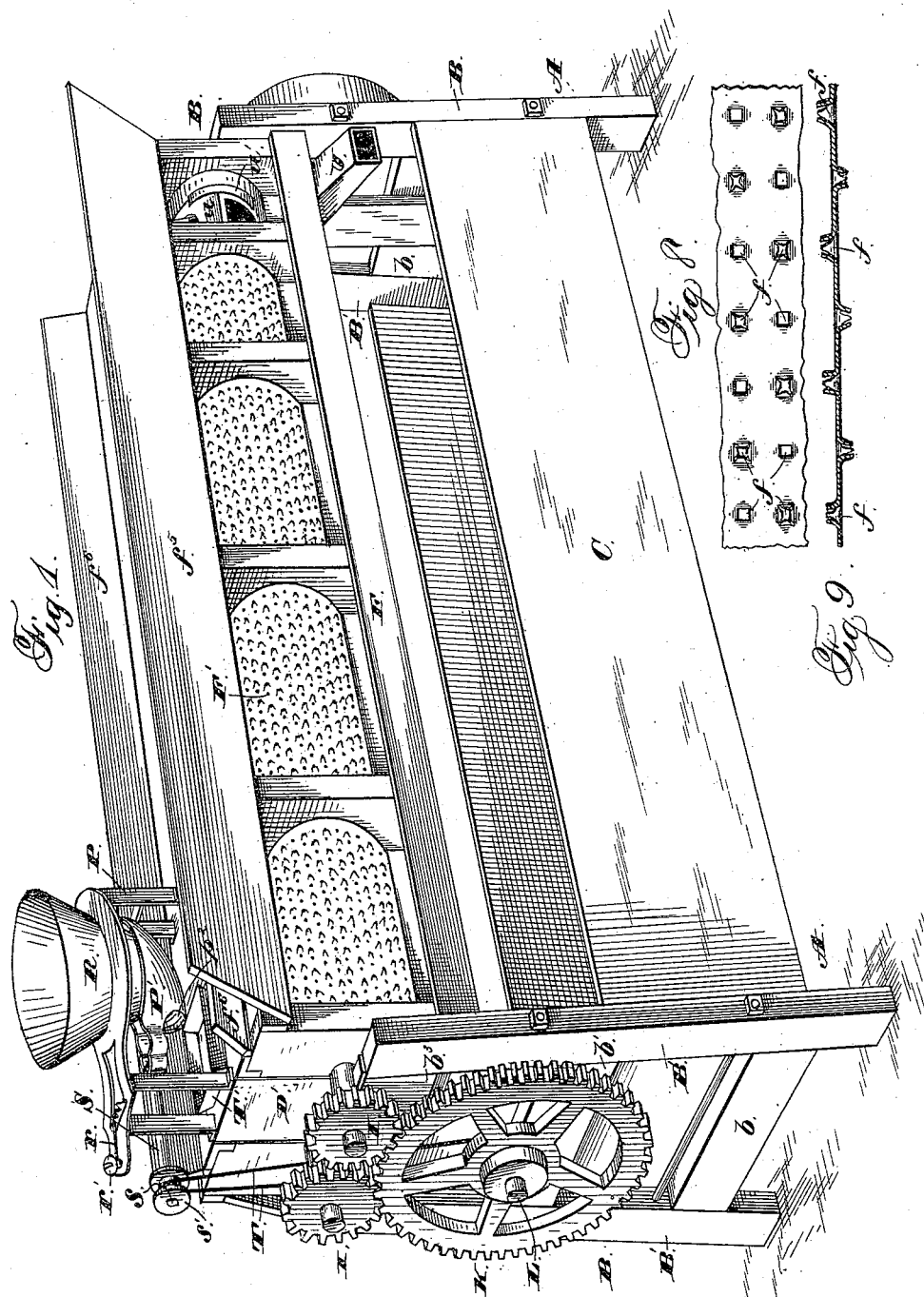
4 Sheets—Sheet 1.

C. C. JESSE.

HOMINY MILL.

No. 313,337.

Patented Mar. 3, 1885.



Witnesses:

J. C. Turner

Henry C. Hazard

Inventor:

Cajus C. Jesse  
by *Permelia C. Jesse*  
Attorney

(No Model.)

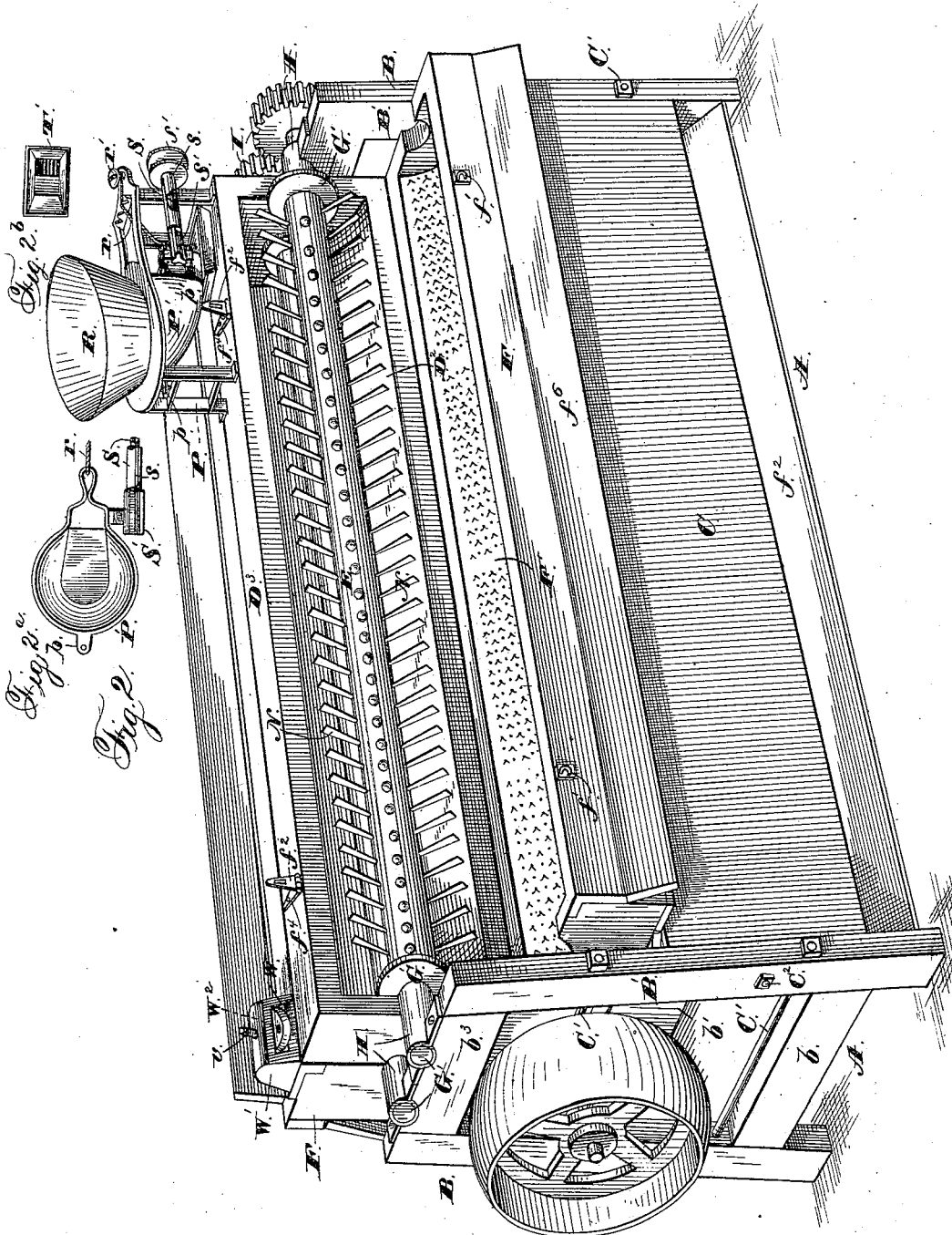
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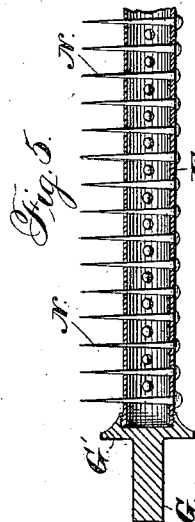
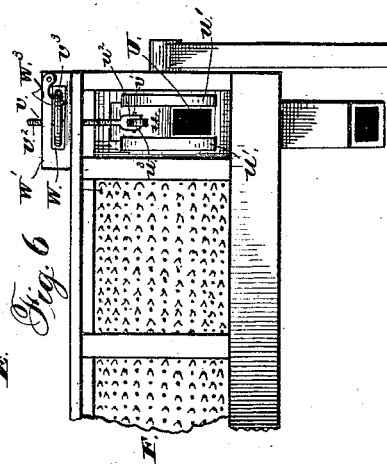
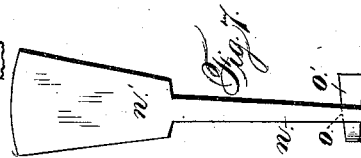
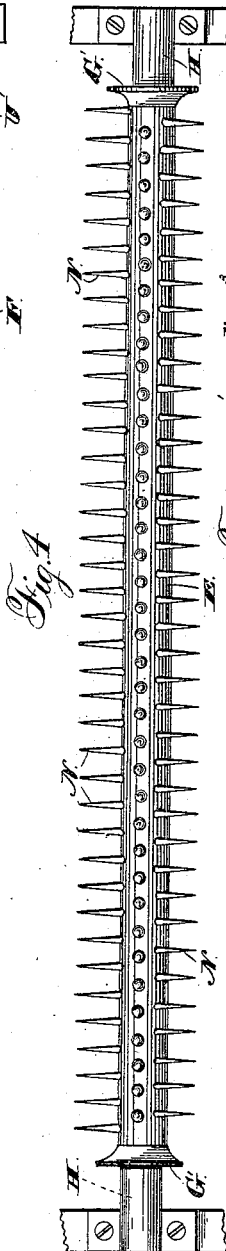
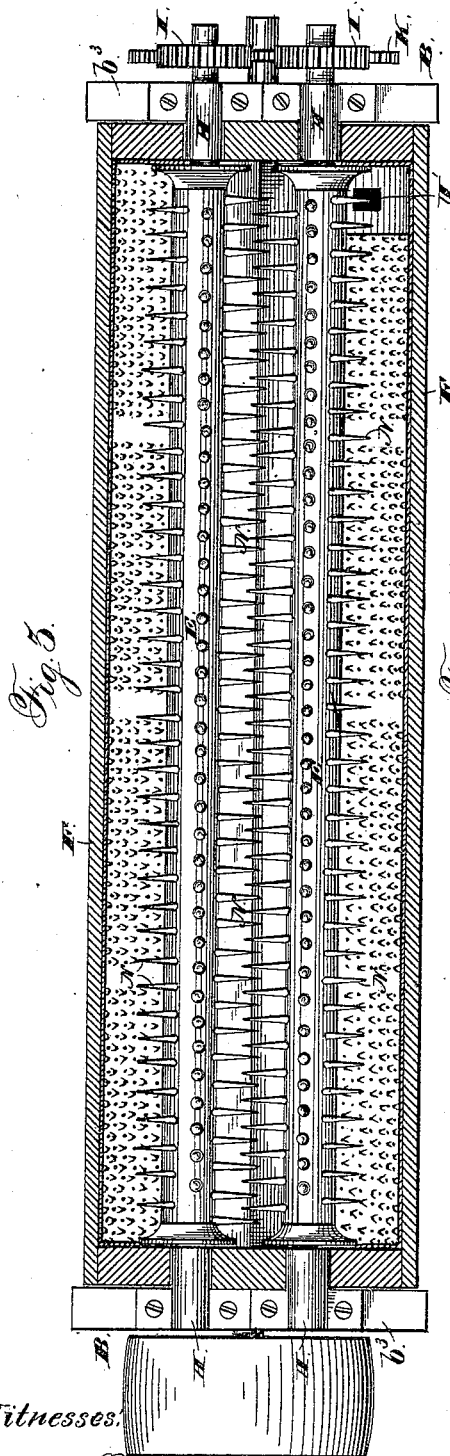
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(No Model.)

4 Sheets—Sheet 4.

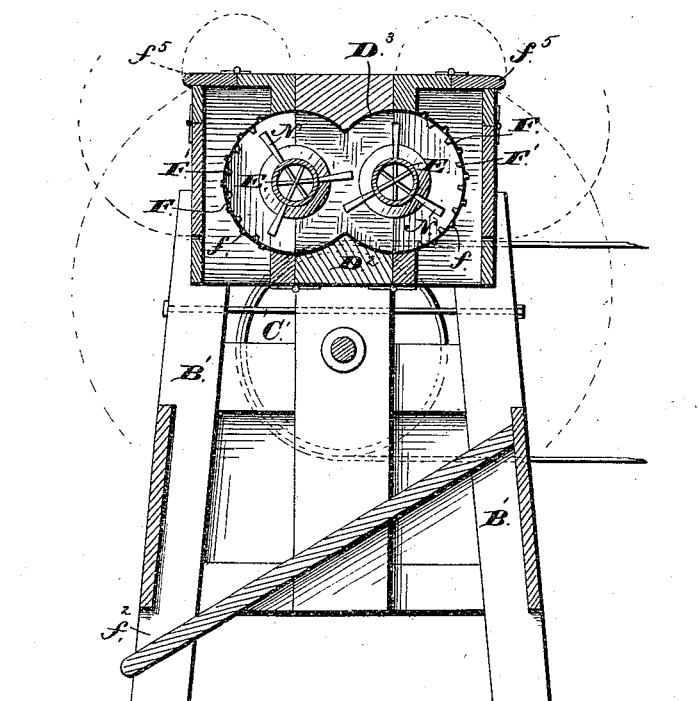
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*Fig 40.*



*Witnesses:*

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# UNITED STATES PATENT OFFICE.

CAJUS C. JESSE, OF CHARLESTON, SOUTH CAROLINA.

## HOMINY-MILL.

SPECIFICATION forming part of Letters Patent No. 313,337, dated March 3, 1885.

Application filed June 12, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, CAJUS C. JESSE, of Charleston, in the county of Charleston, and in the State of South Carolina, have invented certain new and useful Improvements in Hominy-Mills; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 shows a perspective view of my hominy-mill with the hinged doors in the top and side of one of the concaves shown open; Fig. 2, a similar view of the mill from the opposite side with one of the concaves turned down upon its hinges. Fig. 2<sup>a</sup> shows a detail plan view of the shaking-shoe and the damsel; Fig. 2<sup>b</sup>, a similar view of the receiving end of the feed-spout; Fig. 3, a sectional plan view of the mill on the plane through the bearings of the knife-shafts; Fig. 4, a detail view of one of the shafts with its bearings; Fig. 5, a longitudinal sectional view of a portion of one of the shafts, and Fig. 6 a detail view in side elevation of the end of the concave in which is situated the discharge-spout; Fig. 7, a detail view of one of the knives. Figs. 8 and 9 are respectively detail views in elevation and section of a portion of the metal concave facing, and Fig. 10 shows a transverse vertical section of the machine on line *xx* of Fig. 1.

Letters of like name and kind refer to like parts in each of the figures.

The object of my invention is to provide an improvement in hominy-mills; and to this end it consists in the construction, arrangement, and combination of parts, as hereinafter set forth, and more specifically pointed out in the claims.

In the drawings, A designates the frame of my mill, the ends of which, B B, are formed of the inwardly-inclined upright standards B' B', connected by the cross-beams *b b'*.

The frame ends are connected together by means of the longitudinal side boards, C C, attached at each end to the standards B' B', and by the concave frame D, attached at each end to the inner sides of the frame ends by means of the upright boards D', fastened to the cross-bars *b, b'*, and *b<sup>2</sup>*. Transverse brace-rods C' C' are also used to connect the side standards of the ends, and longitudinal rods

C<sup>2</sup> C<sup>2</sup> to connect the two ends of the frame. The upper and inner face of the bottom beam, D<sup>2</sup>, of the concave is inclined downward and outward from a central longitudinal line. These inclined sides are concaved, as shown, with a curvature concentric with the shafts E E. To each side of this beam or timber is hinged a concave, F, whose inner face, F', is concentric with one of the shafts, and is formed of sheet metal punched with square holes *f f*, preferably one-eighth of an inch square, punched alternately from opposite sides of the sheet. The tops of the concaves are provided with staples *f' f'*, which are engaged by hinged hasps *f<sup>2</sup> f<sup>2</sup>*, attached to the top beam, D<sup>3</sup>, of the concave frame to hold the concaves up in place. Wooden pins are passed through the staples to prevent the hasps from becoming disengaged therefrom. The hasps are, as shown, riveted in plates *f<sup>4</sup> f<sup>4</sup>*, which are screwed or otherwise fastened to the concaves. Each concave is provided with a swinging door, *f<sup>5</sup>*, on its side, and another, *f<sup>6</sup>*, on its top.

These doors are for the purpose of allowing access to the rear or outside of the concave faces F' F', so that the concaves can be examined and cleaned or cleared, as desired or found necessary. Its bottom is left open to allow the chops and siftings passing out through the perforations in the metal facings of the concaves to fall downward upon an inclined apron, *f<sup>2</sup>*, which extends from side to side within the frame A, and serves to discharge the chops and siftings at one side of the mill, as shown. The inner and lower face of the top beam, D<sup>3</sup>, is formed like the inner face of beam D<sup>2</sup>, but with its sides inclined upward and outward. The inner faces of both beams are covered with sheet metal.

The shafts E E are made of gas pipe or tubing, as shown in the drawings. Onto their ends are screwed the journals G G, cast with flanges G' G', which come just within the ends of the concaves described. Bearings H H for these journals are placed on the upper cross-bars, *b<sup>2</sup>*. These bearings extend inward through the ends of the concaves, so that their ends are close to the flanges on the journals, as shown. These flanges, situated as they are, will obviously prevent the corn being acted upon within the concaves from getting around

the journals and interfering with their free turning in their bearings. The shafts, as shown, are parallel to each other, and revolve in the same direction. They are driven by means of the pinions I I, keyed or splined on the outer ends of the journals G G, which pinions mesh the gear-wheel K on the shaft L, running the length of the frame and journaled at each end in bearings on the cross-ears b' b'. On the end of this shaft opposite to that upon which gear-wheel K is fixed is the driving-pulley, which is to be driven by a belt connection with any desired motive power. The shafts E E are each provided with three longitudinal rows of knives, N N.

In Figs. 4 and 5 I do not show the means of fastening the knife-shanks which I prefer. In such figures of the drawings the shanks are shown as being fastened in the openings in the shaft by heading them down.

As the main object of these figures is to show the shaft itself and its construction with its journals, I have shown the knives as fastened by heading for sake of clearness, as the shank-heads in these figures are too small to allow of proper showing of the form of fastening which I prefer, as hereinafter set forth and described. These knives are set about two inches apart in my machine as constructed, and those on one shaft are so situated as to project in between those on the other, the shafts being close enough together to cause the ends of the knives to overlap each other, as shown best in Fig. 3.

The knives which I prefer to use are of the shape shown in Fig. 7, consisting of the shank n, upon the end of which is the two-edged blade n', enlarged from its point of attachment to the shanks to its end, so as to be fan-shaped. The shank is of sufficient length to extend entirely through the shaft to which the knife is attached. Openings are made in walls of the shaft diametrically opposite each other for the passage of the shanks. Through the rear end of each knife-shank, at a point just beyond the peripheral surface of the shaft, is an opening, O, adapted to receive a wedge, O', which presses against the shaft-surface and serves to hold and fasten the knife-shank firmly and rigidly in place. With this construction, if a knife becomes broken, it can be easily and quickly removed and replaced. If the operative edge of the knife becomes dulled, the wedge O' can be slipped out and the knife can be turned to bring its other edge into action, and then be fixed in place again by the insertion and driving home of the wedge. Upon the upper beam of the concave frame, at one end thereof, is supported the hopper-frame P, in which is supported the hopper R, below the discharge-opening of which is the shaking-shoe P' with a sloping bottom. As shown, this shoe is pivotally supported at one end, p, so as to allow of a rocking motion thereof as well as a rising and falling movement of the

other end, p'. This latter end, in which is situated the discharge-opening p<sup>2</sup>, is supported by a cord, r, one end of which is tied to the shoe and the other is tied to or wound around a pin, r', on the hopper-frame. By this means the discharge end of the shoe can be raised or lowered while being left free to vibrate and swing.

Journaled in a suitable bearing, s, on the hopper-frame is the damsel-shaft S, bearing on one end a pulley, s', and on the other a damsel, S', adapted to vibrate the shoe by its projecting angular portions or ribs coming into contact as it revolves with the side of the shoe or a projection thereon. A belt, T, runs over the pulley s' and the driving-shaft L. The speed of the damsel can be increased or diminished by changing the size of the pulley or by gear, as desired. The shaking-shoe discharges into the feed-spout T', which is inclined to one side, so that the material flowing through it enters the concave and runs down in the direction of the travel of that portion of the shaft and knives thereon which it first strikes. There will then not be a tendency of the moving knives to throw the corn out and check the feed. The discharge-spout U is situated at the other end of the concave and on the same side of the machine as the feed-spout opening through or into the concave. The opening U' through the concave-casing, through which the hominy passes and falls into the upper end of the spout, is regulated in size or closed by means of the sliding door or valve u, sliding in ways u' at the sides of the opening. An ear or lug, u<sup>2</sup>, on the back of this slide is pivoted between the two ears u<sup>2</sup> u<sup>3</sup> on the end of rod v by means of a pin, v', passing through it and such ears. The upper end of rod v passes up through the concave-casing, and is screw-threaded, as shown at v<sup>2</sup>. Upon this screw-threaded portion is the thumb-nut or disk v<sup>3</sup>, turning in a slot, W, in the short standard or block w'. As this nut or disk is turned the rod v will obviously be caused to move up or down to open or close the discharge-opening in the concave. In the disk are several openings, w<sup>2</sup> w<sup>2</sup>, adapted to be engaged by the end of hook w<sup>3</sup> to hold the disk in any position.

The bottom of the spout U is made of wire-netting so that any fine dust remaining with the hominy as discharged from the concave will be sifted out and will fall down upon the apron f<sup>2</sup>, to be discharged by it along with the siftings and chops at the side of the machine.

With the inner casing or facing of the concaves, made of sheet metal punched, as described, alternately from opposite sides, the edges of the holes punched from without will scour the hulls from the corn, while the particles of the hull and the dust produced by the action of the knives or existing among the kernels of corn will be sifted out through the openings punched from the inner side of the metal

facing. When one side gets worn, the sheet metal can be turned, and the other side thereof can then be used.

Having thus set forth the nature of my invention, what I claim as new is—

- 5 1. In a hominy-mill, the knife-shafts made of gas pipe or tubing and provided with journals screwed onto their ends, substantially as shown and described.
- 10 2. In a hominy-mill, the knife-shafts made of gas pipe, in combination with journals screwed thereon and provided with flanges adapted to protect the journal-bearings from the contents of the concaves, substantially as
- 15 and for the purpose described.
3. In combination with the knife-shafts, the concaves hinged at their lower sides to the frame and provided with means for locking them when swung up into place, substantially
- 20 as shown and described.
4. The concave provided with side and top doors to give access to the back of the concave-facing, substantially as shown and described.
5. The concaves faced with perforated sheet
- 25 metal and provided with side and top doors to give access to the back of the casing, and with an open bottom to allow the chops and siftings passing through the perforated concave facing to fall down and be discharged below, substan-
- 30 tially as shown and described.
6. In combination with the knife-shaft, knives provided with shanks passing entirely through the shaft, and wedges passing through slots in such shanks at or near their outer ends
- 35 and bearing against the outer or peripheral surface of the shaft, substantially as shown and described.
7. In combination with the rocking-shoe

provided with a projection on its side, the damsel, the shaft on which the damsel is carried, the pulley on the damsel-shaft, the main driving-shaft, the pulley on this shaft, and the band or belt passing over the two pulleys, substantially as and for the purpose described.

8. In combination with the casing having a discharge-opening, the slide adapted to close or regulate the size of such opening, a rod pivotally attached to the slide, a screw nut or disk through which the rod is tapped, and means, substantially as described, adapted to hold the nut from longitudinal movement while allowing it to be rotated, all substantially as shown and described.

9. In combination with the screw-threaded rod, the discharge-regulating slide, the nut or disk on the rod, means for preventing the longitudinal movement of the nut or disk while allowing it to turn, and means for locking it, substantially as shown and described.

10. The facing for the concave of a hominy-mill, formed of sheet metal having holes punched through it alternately from opposite sides, substantially as shown and described.

11. A facing for the concave of a hominy-mill, consisting of a sheet of metal having square holes punched through it from opposite sides alternately, substantially as and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand this 11th day of March, A. D. 1884.

CAJUS C. JESSE.

Witnesses:

JOHN H. CLAUSSEN,  
J. B. EVANS.