(No Model.) 2 Sheets—Sheet 1.

L. R. WHITING.

MACHINE FOR SHUCKING AND SHELLING CORN.

No. 382,285. Patented May 1, 1888.

Fig. 1.

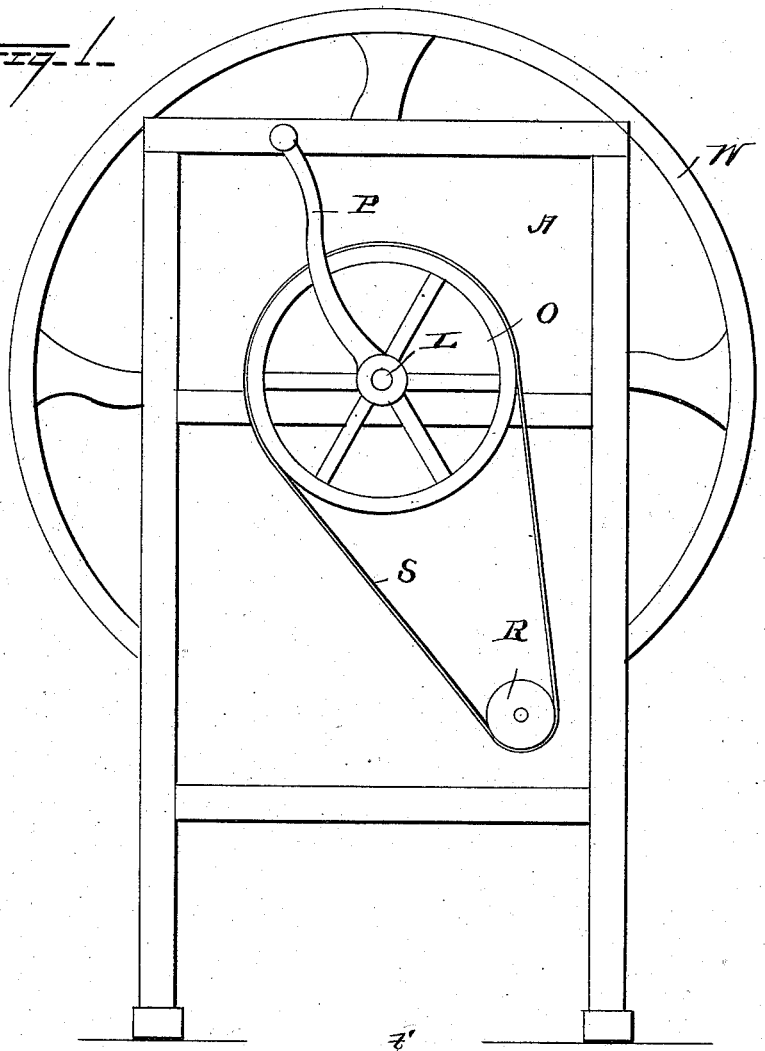


Fig. 4.

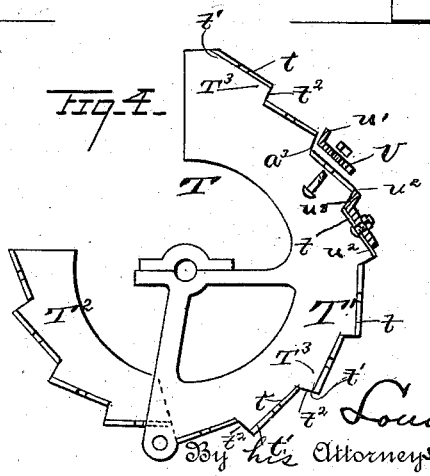


Fig. 5.

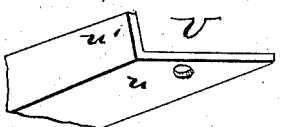
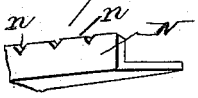


Fig. 6.



Witnesses.

Wm. B. Sill.

J. W. Garner.

Inventor

Louis R. Whiting

By his Attorneys.

C. A. Snow & Co

(No Model.) 2 Sheets—Sheet 2.

L. R. WHITING.

MACHINE FOR SHUCKING AND SHELLING CORN.

No. 382,285. Patented May 1, 1888.

Fig 2

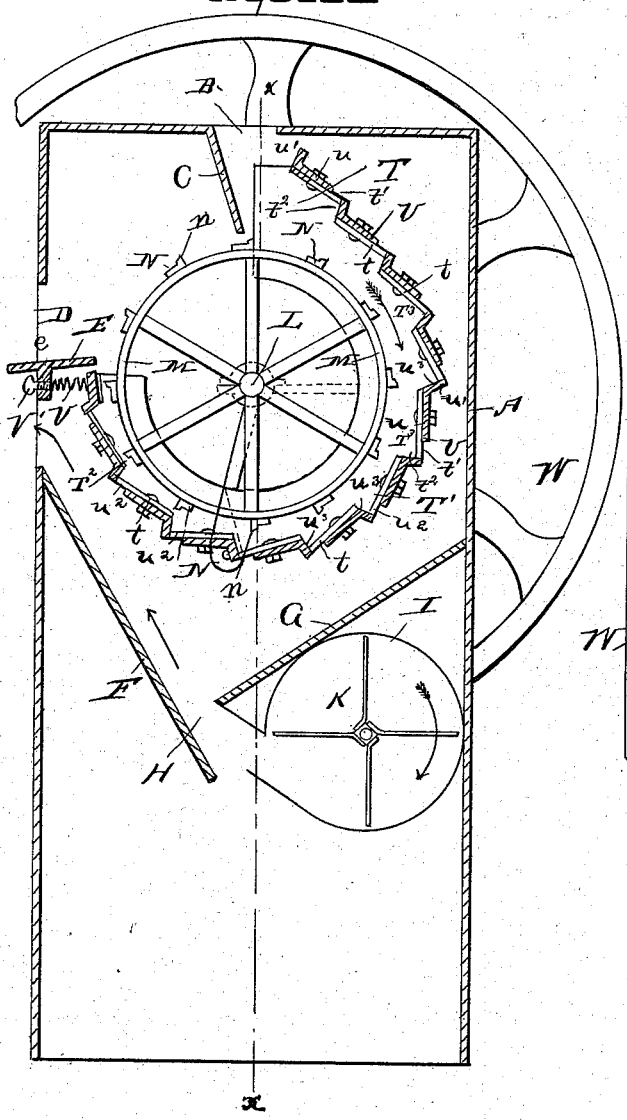
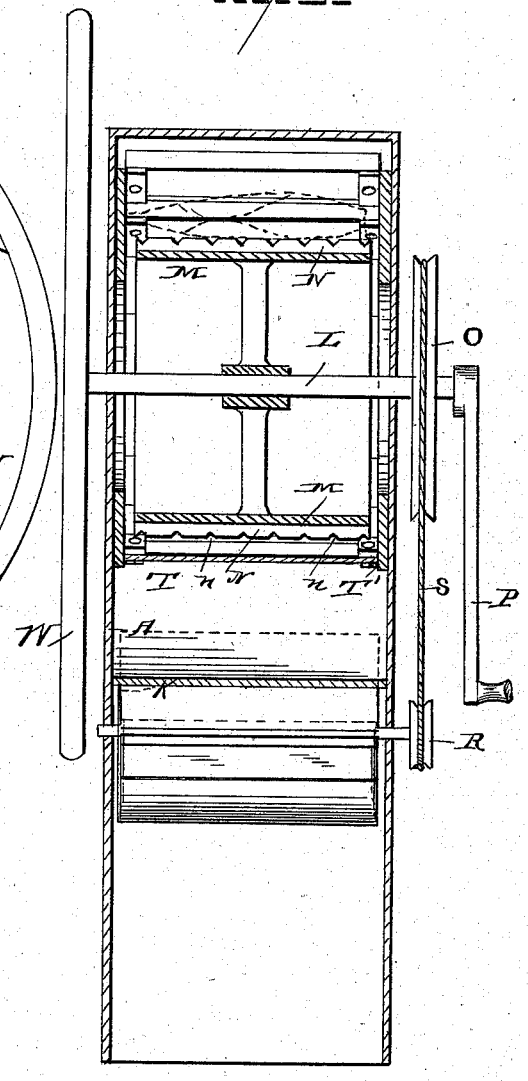


Fig 3



Witnesses

Wm. T. Gill

J. W. Garner.

Inventor,

Louis R. Whiting.

By his Attorneys,

C. A. Snow & Co

UNITED STATES PATENT OFFICE.

LOUIS ROSSELL WHITING, OF FORT WORTH, ASSIGNOR OF ONE-FOURTH TO ALFRED MUCKLE, OF BOBBIN, TEXAS.

MACHINE FOR SHUCKING AND SHELLING CORN.

SPECIFICATION forming part of Letters Patent No. 382,285, dated May 1, 1888.

Application filed May 26, 1886. Renewed November 7, 1887. Serial No. 254,579. (No model.)

To all whom it may concern:

Be it known that I, LOUIS ROSSELL WHITING, a citizen of the United States, residing at Fort Worth, in the county of Tarrant and State of Texas, have invented a new and useful Improvement in Machines for Shucking and Shelling Corn, of which the following is a specification.

My invention relates to an improvement in machines for shucking and shelling corn; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is an end elevation of my invention. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a vertical section on the plane at right angles to Fig. 2. Fig. 4 is a detailed elevation of the rib-frame. Fig. 5 is a detail perspective view of one of the ribs. Fig. 6 is a similar view of the cylinder-teeth.

A represents a rectangular vertical inclosing-case, which is provided on its upper side with an inlet-opening, B. On one side of the said opening is an inclined feed-board, C. On one side of the case A is a discharge-opening, D, in the lower side of which is located an inclined delivery-board, E. The bottom of the case is formed by inclined boards F and G, which converge downwardly, and between the lower edges of the said boards is a discharge-opening, H. I represents a cylindrical case, which is located below the board G, and in the said case is journaled a rotary fan orblower, K.

Horizontally and in the center of the case is journaled a shaft, L, carrying a cylinder, M, which is provided on its periphery with longitudinal rows of teeth *n*. The said teeth are made by serrating the upper edges of angle-plates N, as shown in Fig. 6, and then bolting the said angle-plates to the face of the cylinder, and arranging them parallel with each other. On one end of the shaft L, which projects beyond the case A, is secured a band-pulley, O, and a crank-handle, P, and on one end of the shaft of the fan K, on the same side of the case with the pulley O, is secured a small pulley, R, which is connected to the pulley O by means of an endless belt, S.

T represents a concave frame, of which T′ are the end walls, which are located in the case A and secured on the shaft L near the ends thereof. Each end wall has its outer edge provided with serrations T^3, having the long tangential sides *t′*, and the shorter sides, t^2, arranged at an obtuse angle with relation to the sides *t′*. On the opposing sides of the end walls are flanges *t*, which project inwardly from the sides *t′* of the serrations, and on the said flanges are bolted ribs U, which connect the end walls together. The said ribs U each have a long side, *u*, and a short side, *u′*, the said sides being arranged nearly at right angles to each other. The width of the long sides *u* of the ribs is somewhat less than the flanges *t*, and when the said ribs are bolted on the said flanges *t* openings u^2 are left between the edges of the ribs, which openings extend longitudinally across the rib-frame and are parallel with each other. The ribs U project inwardly from the outer rims of the concave or rib frame toward the cylinder M, thereby forming abrading-shoulders u^3. The end walls, T′, of the rib or concave frame are provided on their lower sides and on the sides opposite the discharge-opening D of the case A with pivoted or hinged sections T^2. Springs V bear against the free upper edges of the said hinged or pivoted sections and press the same toward the cylinder. The tension of the said springs may be regulated by the set-screws V′, which extend through a flange, *e*, which depends from the inclined delivery-board E. On the outer end of the shaft L is secured a large fly-wheel, W.

The operation of my invention is as follows: When the shaft L is rotated in the direction indicated by the arrow in Fig. 2, the cylinder is caused to rotate in the rib or concave frame, and the fan K is also caused to rotate in its case I, thereby creating a blast of air, which strikes against the inner side of the board F, and proceeds upwardly along the said board, and through the opening below the inclined delivery-board E, as indicated by the unfeathered arrows in Fig. 2. The corn to be shucked and shelled is fed through the opening B, and the ears are grasped by the teeth of the rotating cylinder and forced between the face

thereof and the opposing face of the concave. This imparts rotary motion to the ears and arranges them lengthwise on the cylinder, and the action of the teeth thereof and the ribs of the concave tears the shucks from the ears and then rubs the grains from the cobs. The grains fall through the openings u^2 onto the boards G and F, and are thereby conveyed to the opening H, where they are met by the blast of air from the fan or blower and thoroughly winnowed. The particles of dust and dirt and other impurities are discharged by the blast through the opening below the board E, and the shucks and the cobs are discharged through the opening D above the said board. By providing the concave or rib frame with the hinged lower discharge-section and providing the springs bearing against the same it will be readily understood that the cobs and shucks are prevented from clogging the space between the cylinder and the concave, as the hinged portion of the latter is free to move outwardly under pressure of cobs of unusual size or compact bunches of shucks, so as to permit ready escape of the same.

Having thus described my invention, I claim—

1. The concave comprising the end walls, T′, having their outer edges provided with the serrations T^3, which have the long tangential sides t', and the shorter sides, t^2, arranged at an obtuse angle with relation to the sides t', and the flanges t on the opposing sides of the end walls and projecting inwardly from the sides t' of the serrations, and the ribs U, secured on the said flanges to connect the end walls together, the said ribs being narrower than the said flanges to leave openings u^2 between the edges of the ribs, for the purpose set forth, substantially as described.

2. A corn shucking and shelling machine, comprising the cylinder and concave, the inclosing-case provided with the discharge-opening D for the shucks and cobs on one side, the board E, extending from the discharge end of the concave to the casing, and dividing the opening D into an upper and lower passage, the oppositely-inclined boards F and G, forming the bottom of the case, and having the opening H between their lower edges, and the blower to direct a current of air through the opening H up the board F, and out of the opening D below the board E, for the purpose set forth, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

LOUIS ROSSELL WHITING.

Witnesses:
J. W. ANDERSON,
JOE W. SIMMONDS.