

N. Goldsborough.
Corn Sheller.

Nº. 1975.

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Fig. 2.

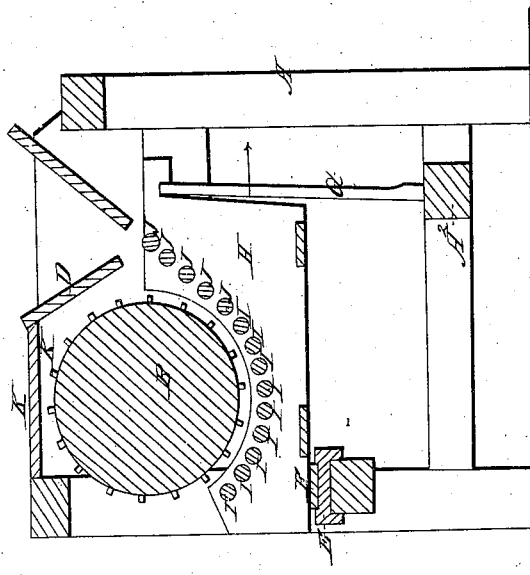
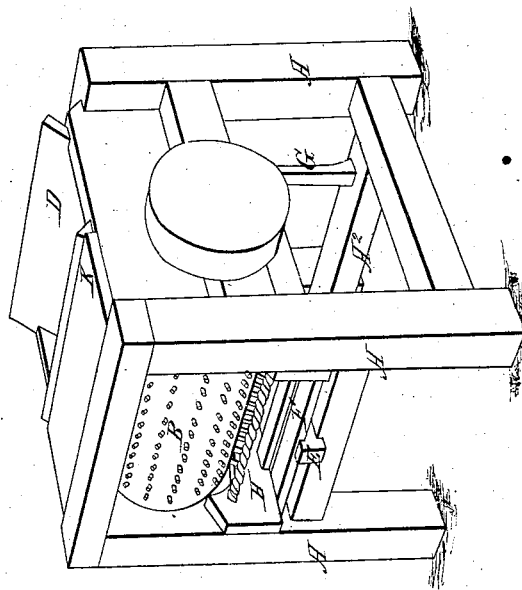


Fig. 1.



UNITED STATES PATENT OFFICE.

NICHOLAS GOLDSBOROUGH, OF EASTON, MARYLAND.

MANNER OF CONSTRUCTING CORN-SHELLERS.

Specification of Letters Patent No. 1,975, dated February 12, 1841.

To all whom it may concern:

Be it known that I, NICHOLAS GOLDSBOROUGH, of Easton, county of Talbot, and State of Maryland, have invented a new and useful Improvement in Machines for Husking and Shelling Corn at One Operation, and that the following is a full and exact description of the construction and operation of the said machine as invented and improved by me, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1—perspective view. Fig. 2—section.

The machine consists of a frame A; cylinder or beater B; concave and feeding apron or hopper D.

First, the frame is constructed of substantial timbers, sufficiently large to receive the other machinery hereinafter described; it is composed of four upright posts; to wit two front and two back posts, joined together by side rails and cross ties, the upper rails being tenoned into the posts near their upper ends and forming the bearings of the cylinder shaft; the front posts are made somewhat larger than the back posts; and at the distance of fourteen inches from their feet are united by a cross girth, which by means of a small block or bolster E let into the middle of the upper side, forms the bearing of a horizontal spring F, as also by a cap piece or tenons at the upper ends of the posts. The back posts are united at their upper ends by a cap piece as before described, and are confined near their lower ends by a strong cross tie A² tenoned into the lower side rails near their junction with the back posts. The cross tie aforesaid also affords the support or bearing of two vertical springs G G, which, together with the horizontal spring, hereinbefore named, sustain and suspend the concave H. The springs are made of yellow pine or white ash. Those marked G are mortised and tenoned into the cross tie A² at their lower ends, their upper ends being let loosely into notches in the back part of the ends of the concave, which arrangement of springs allows the rollers J to recede from the cylinder by the admission of large ears, hard substances, or from some other cause, the elasticity of the pieces of wood forming the springs G extending from their upper or loose ends down to their other ends which are fixed into the cross tie as before de-

scribed, the yielding being in a horizontal direction as indicated by the arrow.

Second. The cylinder B is made of solid wood, banded at the ends having iron or steel gudgeons, which run in suitable boxes secured on the top of the upper side rails; the teeth are made of bar or rod iron $\frac{1}{2}$ inch square cut into lengths of two and a half inches, two inches of which are driven perpendicularly into the cylinder, after being bored for that purpose, so as to stand in parallel rows lengthwise the cylinder, the teeth of each row standing opposite to the spaces in the adjoining rows. There are nineteen rows of teeth equidistant. The dimensions of the cylinder may be varied, but those which I find to answer well are, fourteen inches diameter by twenty two inches long, and driven with a velocity making 450 to 500 revolutions in a minute.

Third. The concave which occupies about one third of the circumference of the cylinder, and immediately under it, is formed of two jambs or side pieces H parallel to each other, their upper edges cut into inverted arches, having their centers in the axis of the cylinder, and are held together by two cross ties dovetailed into their lower edges, into these jambs, holes are bored, and fifteen twisted bars I of iron inserted, ten of which are arranged in a circle concentric with the cylinder and one inch distant from the points of the teeth, and the remaining five J in a tangent to that circle. All the bars are placed parallel and apart an inch and a half from center to center. They are made of $\frac{7}{8}$ bars heated and twisted spirally having their ends turned in a lathe for about $\frac{3}{8}$ of an inch so as to form a small shoulder, and when inserted as before named each bar revolves freely.

Fourth. The cap or hood K K is formed of two light side plank placed vertically upon and lengthwise the upper side rails upon their upper edges, and next the cap piece of the forward posts is nailed a board covering the cylinder, said board being flush with said cap piece, between the aforesaid side planks are placed two boards at an angle so as to form a hopper D, the ends of the boards are in rabbets, and the plane of the hinder board is in continuation of the plane of the 5 largest bars aforesaid. I have omitted to mention the bonnet which may be suspended to the front posts of the frame, and the use of which is to prevent

the grain being thrown to a distance, when discharged from the machine as its construction and use are so well known. The machine thus arranged, is a corn machine, 5 either, for shelling what has been previously husked, or husking and shelling at one operation. But it may be employed for threshing wheat, and when wanted for that operation, the cylinder should be made with 10 the teeth an inch out, and the concave set up to one fourth of an inch of the points of the teeth, having an extra pair of jams for that purpose and a wheel of six inches diameter, to give the usual velocity of wheat 15 machines.

Operation: The machine being set in revolution by horse or other power applied to the band pulley, the ears of corn are thrown into the hopper and are immediately acted 20 upon by the joint operation of the teeth of the cylinder and twisted bars of the con-

cave, these latter by revolving; greatly facilitate the passage of the corn through the machine, and act so thoroughly on every part of the ear, as to remove all the grains 25 from the small ends of the cobs. The machine performs all its operations with great rapidity, it will require at least two active men to throw in the corn, or corn that has been husked, may be poured in with a 30 basket.

What I claim as my invention and wish to secure by Letters Patent is—

The concave, consisting of revolving twisted fluted bars, and hung upon springs 35 F and G, in combination with the toothed cylinder, for the purpose, and in the manner above specified and described.

N. GOLDSBOROUGH.

Witnesses:

WM. B. SMYTH,
THOMAS COWARD.