

J. MORRAL.  
CORN BUTTING MACHINE.  
APPLICATION FILED SEPT. 23, 1911.

1,029,213.

Patented June 11, 1912.

2 SHEETS—SHEET 1.

FIG. 1.

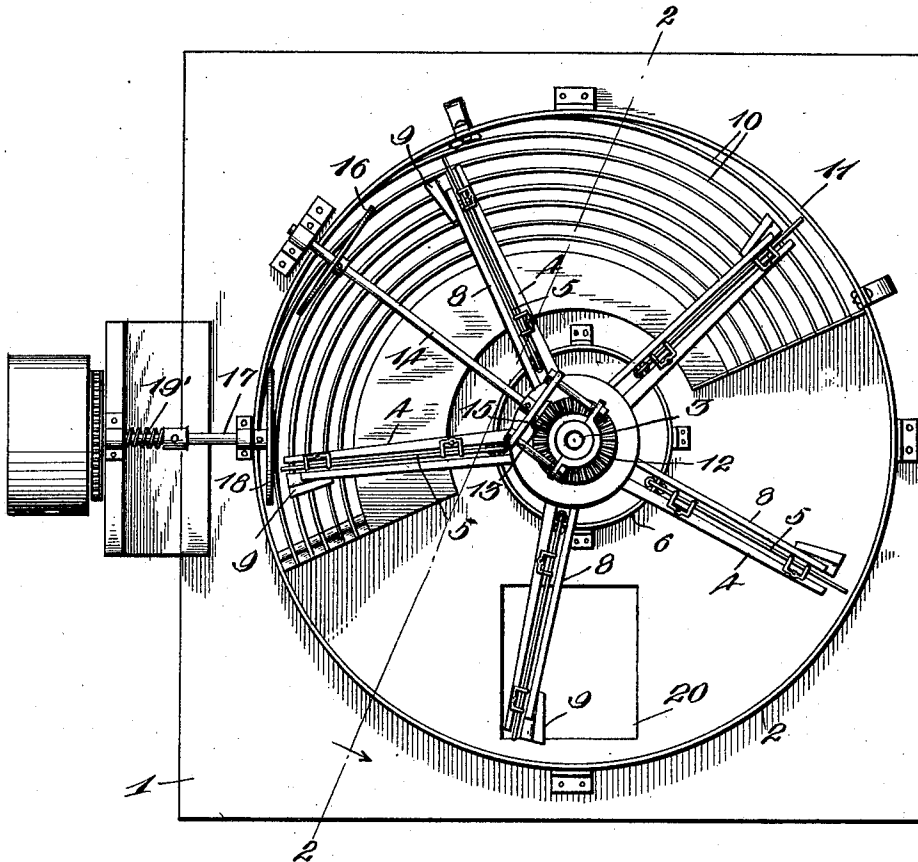


FIG. 3.

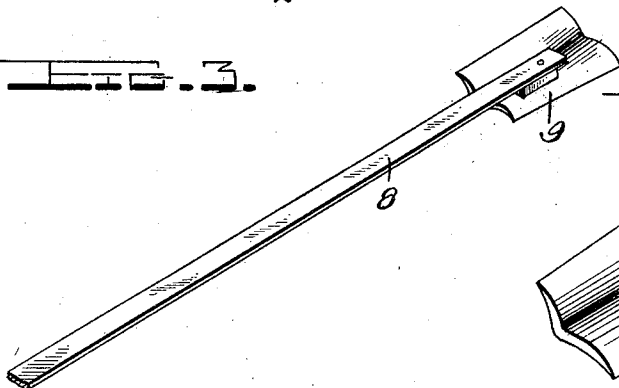
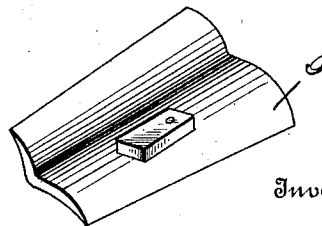


FIG. 5.



Witnesses

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2 SHEETS—SHEET 2.

FIG. 2.

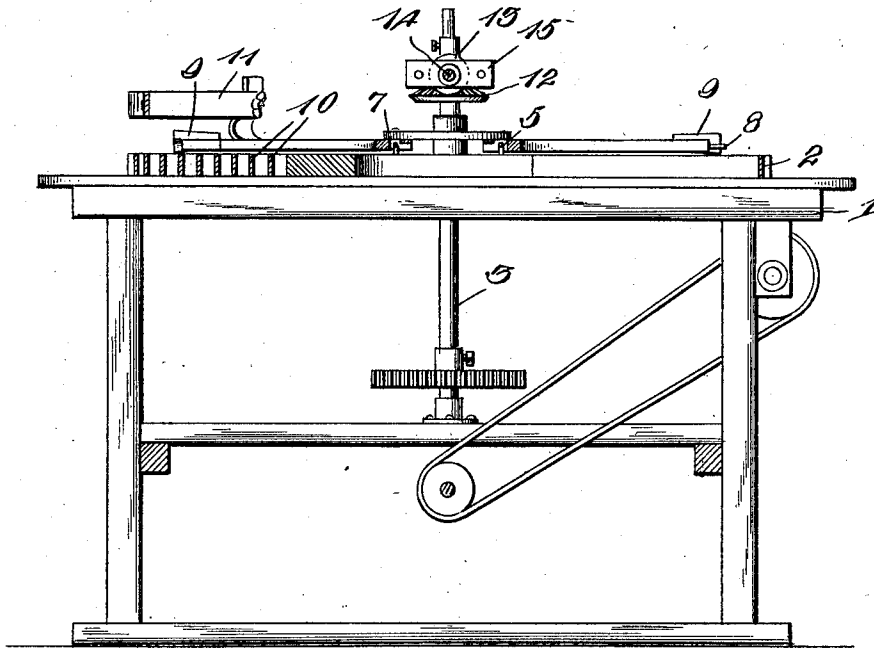


FIG. 6.

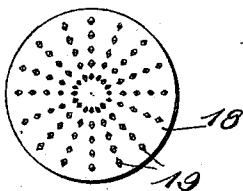
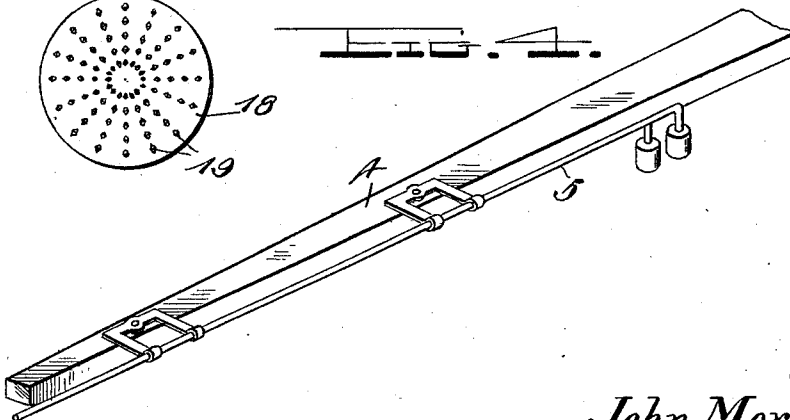


FIG. 4.



Witnesses

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# UNITED STATES PATENT OFFICE.

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CORN-BUTTING MACHINE.

REISSUED

1,029,213.

Specification of Letters Patent.

Patented June 11, 1912.

Application filed September 23, 1911. Serial No. 650,910.

*To all whom it may concern:*

Be it known that I, JOHN MORRAL, a citizen of the United States, residing at Larue, in the county of Marion and State of Ohio, have invented certain new and useful Improvements in Corn-Butting Machines, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to new and useful improvements in corn butting machines and my object is to provide a machine of this character which will readily remove the butts from the ears and at the same time loosen the husks before the ears pass through to the husking rolls.

A further object of the invention resides in providing a stationary table, immediately above which is mounted a cutting disk, and a still further object resides in the provision of rotating arms on the table which are adapted to cause the ears on the table to be moved in the path of the cutting disk.

Still another object of the invention resides in providing a rasping disk immediately adjacent the table which is adapted to remove that portion of the butt of the ear which has been left after cutting by the aforesaid disk and also to loosen the husks before the ears are allowed to pass to the husking rolls.

A still further object resides in providing guiding tracks on the table which are adapted to properly position the ears in the path of the cutting and rasping disks as said ears are caused to travel in a circuitous path on the table.

Still another object resides in the provision of sliding arms in connection with the aforesaid arms, and a still further object resides in providing spring arms which are adapted to engage various sized ears to retain the same in position as the arms are rotated.

A still further object resides in providing a device which is extremely simple and durable in construction, and one which is very effective and useful in operation.

With these and other objects in view, my invention consists in the novel features of construction, combination and arrangement of parts as will be hereinafter referred to and more particularly pointed out in the specification and claims.

In the accompanying drawings forming

a part of this application, Figure 1 is a top plan view of the table. Fig. 2 is a section thereof as seen on line 2—2, Fig. 1. Fig. 3 is a detail perspective view of one of the spring arms. Fig. 4 is a fragmentary perspective view of one of the other arms showing the sliding arm connected therewith. Fig. 5 is a detail perspective view of the hand or engaging member on the spring arm, and Fig. 6 is a detail view of the rasp.

In carrying out my invention, I shall refer to the drawings in which similar reference characters designate corresponding parts throughout the several views and in which 1 indicates a table of any desired size and shape, upon the upper face of which is mounted a circular rail 2, and extending through the table 1 centrally of the circular rail 2, is a rotatable shaft 3. Radiating from said shaft 3, is a plurality of rigid arms 4, each of which has guided along its side, a longitudinally movable arm 5, said movable arms having their inner ends connected with the cam trackway 6, whereby as said shaft 3 is rotated, the arms 4 and 5 will be rotated therewith and said arms 5 will be moved outwardly or inwardly, accordingly as the cam track 6 is arranged, the purpose of which will be hereinafter and more particularly described.

The shaft 3 has also mounted thereon and adapted to rotate therewith, the disk 7, and secured on said disk so as to rotate therefrom, are the additional spring arms 8, the free ends of which have secured thereto, the flexible members 9 which may be reasonably termed hands, since the function performed thereby is that of engaging ears of corn on the table, the same conforming to the various sizes of corn and carrying the same around the table as said shaft 3 is rotated. The table 1 is also provided with a plurality of arcuately designed cam guiding tracks 10 which, for a portion of their length, tend to converge toward the outer rail 2, whereby it will be seen that as the ears are caused to travel on the table in a circuitous path, the same will be guided toward said outer rail 2 through the medium of said guiding tracks 10, and above the rail 2 at the portion thereof where these guide tracks 10 are provided, is also provided an additional gaging rail or the like 11 to prevent larger ears jumping the rail 2 as the same are caused to move about the table. This gaging rail

11 is spaced in alinement immediately above the rail 2 so that as the ears of corn are guided outwardly toward said rail 2, the butts thereof may extend between said rails 2 and 11, previous to being removed, and in order to provide for various sized butts, the rail 11 is made adjustable vertically of the device. The space between the rail 2 and the rail 11 is such as to receive the projecting butts as the ears are guided outwardly toward said rails, and to allow them to travel therein.

As stated, the shaft 3 extends through the table 1 and is provided with a gear 12 which meshes with a similar gear 13 carried on an additional shaft 14, said additional shaft being supported above the table by means of a bearing or the like 15. Carried on the shaft 14, is a cutting disk 16 which is adapted to rotate with the rotation of said shaft, and it will be seen that as the ears of corn are caused to travel about the table, the same are brought into the path of this cutting disk which is adapted to remove the butts therefrom. Also mounted on the table 1 and rotatably supported thereon through any desired means, is a shaft 17, upon one end of which is mounted a disk 18 which is positioned so as to rotate through certain of the tracks 10 and has the one face thereof provided with rasping teeth 19. As the ears are relieved of their butts by their engagement with the cutting disk 16, the same are caused to pass in front of the rasping disk 18, and as there is always a certain amount of butts remaining, this latter disk will tend to remove the same by rasping thereon. In order that this rasping disk may only butt up to the cob proper and not remove any of the grains of corn, the shaft 17 upon which said disk is mounted, is loosely mounted in its bearings and acted upon by means of a spring 19 encircling the same, which spring tends to force the shaft and correspondingly the disk inwardly toward the center of the table. The cob being substantially rigid as the same passes this rasp, will contact with the same and cause said disk to yield, and in so yielding, it will be seen that only that portion of the ear will be removed which extends from the cob proper which has not been removed by the cutting disk. It will also be noted that in rasping the butt down to the cob proper, the husks will be considerably loosened, and as they are continued onward in their circuitous paths, the same will be dropped through the opening 20 in the table 1 where they are passed to the husking rolls or other husking means which do not form a part of this invention and are, therefore, not clearly shown and described.

In operation, the ears of corn are placed on the table 1 within the rail 2 and forward

of the guiding tracks 10, and as the shaft 3 is caused to rotate through any desired means, whatsoever, (not shown), the arms 4 and 8 radiating from said shaft 3, will contact with the ears and cause the ears to rotate therewith on the table. The flexible hands 9 on the ends of the spring arms 8 will conform to the various sizes of ears and grasp them securely so that the same may not be casually removed from their engagement during the operation of the device, and as said arms carry the ears around the table, said ears will enter upon the guiding tracks 10 and be caused to move toward the outer rail 2, in view of the particular arrangement of said tracks. As said ears are moved toward the rail 2, the sliding arms 5 will also move to their extended positions, in view of the cam trackway 6 which is arranged to accomplish this result, thereby causing the ears to remain in their position in engagement with the hands 9 and the gaging rail 11 will limit the movement of said ears as the same pass around said tracks. The tracks 10 lead toward the cutting disk 16 so that as said ears are caused to travel in their circuitous path, the same will pass beneath said disk, and as the same are positioned so the butts thereof will be engaged by said disk, each ear will be relieved of its butt as the same passes beneath said cutting disk. The tracks 10 will then guide the ears past the disk 18 where the portions of the butts which remain, may be rasped to the cob proper and simultaneously loosen the husks thereon which remain. The ears are then moved onwardly where they are passed through the opening 20 in the table to the husking or any other desired means therebelow.

From the foregoing, it will be seen that I have provided an improved means for removing the butts from the ears of corn previous to their being husked, which means may or may not be used in connection with husking means, as desired. It will further be seen that I have provided a positive means for the engagement of the ears so as to carry the same in a circuitous path about the table, and it will still further be seen that by providing a guiding track upon the table, said ears will be positively passed into a position to be engaged by the cutting disk. Furthermore, it will be seen that I have provided arms for the engagement of the ears to carry the same about the table, and it will still further be seen that I have provided movable connections with certain of the arms to compensate for the movement of the ears toward the outer rail previous to being engaged by the disk. It will still further be seen that by providing a rasping disk, the remaining portion of the butts of the ears which have not been removed by the cutting disk, will be removed, and it

will still further be seen that as the rasping disk is mounted on a yielding supported shaft, said disk will yield as the same engages the ears and thereby prevent any possible cutting of the cob proper. It will still further be seen that this device is extremely simple and durable in construction, and one which is very effective and useful in operation.

10. What I claim is:—

1. A machine of the class described, comprising a horizontal table, means to revolve ears of corn thereon, a cutter rotatably mounted immediately above said table near the outer edge thereof, and means to guide the ears of corn radially to a position beneath the cutter as the same are revolved on the table.

2. A machine of the class described, comprising a table, means to revolve ears of corn thereon, a cutter rotatably mounted immediately above said table, a rasp revolvably mounted adjacent said cutter and the outer periphery of the table, and means to guide the ears of corn beneath the cutter and into engagement with the rasp as the same are revolved on said table.

3. A machine of the class described, comprising a table, a rotatable shaft extending centrally therethrough, a plurality of rigid arms radiating from said shaft above the table, a plurality of flexible arms also radiating from said shaft, said arms being adapted to carry ears of corn around said table as said shaft is revolved, a cutter rotatably mounted immediately above said table near the outer edge, and means to guide the ears of corn outwardly beneath said cutter as the same are revolved on the table.

4. A machine of the class described, comprising a table having an opening therein, a rotatable shaft extending centrally through said table, a plurality of arms radiating from said shaft and adapted to revolve the contents of the table as the shaft is rotated, a cutter rotatably mounted immediately above said table, and cam tracks on the upper surface of said table adapted to guide the contents beneath said cutter as said contents are revolved.

5. A machine of the class described, comprising a table having an opening therein, a rotatable shaft extending centrally through said table, a plurality of rigid arms radiating from said shaft, a plurality of flexible arms also radiating from said shaft, the last referred to arms being provided with engaging members on their free ends, a cutter rotatably mounted immediately above said table, said arms being adapted to revolve the contents of said table beneath said cutter, guiding cam tracks on the upper surface of said table, and a gage rail on said table.

6. A device of the class described, comprising a table having an opening therein, a rotatable shaft extending centrally through said table, a plurality of rigid arms radiating from said shaft, flexible arms also radiating from said shaft, a cutter rotatably mounted immediately above said table, said arms being adapted to revolve the contents of said table beneath said cutter, guiding cam tracks on the upper surface of said table, a gage rail above the outer periphery of said table and cutting said cam tracks, and arm sections slidably arranged in connection with the first mentioned arms.

7. A machine of the class described, comprising a table having a circular guide rail thereon, a shaft extending through the table and centrally of said guide rail, a plurality of rigid arms radiating from said shaft, a plurality of spring arms also radiating from said shaft, said spring arms being provided on their free ends with ear-engaging members, a rotatable cutter arranged immediately above said table and adjacent the guide rail, a plurality of curved guide tracks on the upper surface of said table, said guide tracks tending toward the guide rail, a gage rail mounted on the table just above said guide rail adjacent said tracks, and slidable arm sections arranged in connection with said other arms.

8. A machine of the class described, comprising a table having a circular guide rail thereon, a shaft extending through said table and centrally of said guide rail, arms radiating from said shaft, a cutter rotatably mounted immediately above said table and adjacent said guide rail, parallel spiral guiding tracks on the surface of said table, terminating outwardly at the guide rail, a plurality of additional arms slidably arranged in connection with the aforesaid arms, and a cam having cooperation with the inner ends of said last referred to arms to control the sliding movement thereof.

9. A machine of the class described comprising a table having a peripheral circular rail, a shaft extending through the table concentrically of the rail, ear-engaging arms extending radially from the shaft, a cutter mounted above the table just within the rail, a radial rasp similarly mounted adjacent the cutter, a gage rail spaced above the first rail about that portion of the table including the cutter and rasp, parallel curved guiding tracks eccentrically arranged on that portion of the table bounded by the gage rail and converging thereto, the table provided with a discharge opening adjacent the terminus of the tracks.

10. A machine of the class described comprising a horizontal table having a peripheral circular rail, a shaft extending vertically through the table concentrically of

the rail, rigid and flexible ear-engaging  
arms extending radially from the shaft  
above the table surface, a radial disk cutter  
mounted above the table just within the rail  
5 as the chord of an arc of the rail, a radial  
disk rasp similarly mounted adjacent the  
cutter, a gage rail spaced above the first rail  
about that portion of the table including the  
cutter and rasp, parallel curved guiding  
10 tracks eccentrically arranged on that por-

tion of the table bounded by the gage rail  
and converging thereto, the table provided  
with a discharge opening adjacent the ter-  
minus of the tracks.

In testimony whereof I hereunto affix my 15  
signature in the presence of two witnesses.

JOHN MORRAL.

Witnesses:

WILLIAM DRAKE,  
M. C. CLEMENTS.

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

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