(No Model.)

L. E. GAISSER.

CORN SHELLER.

No. 550,557. Patented Nov. 26, 1895.

Fig. 1.

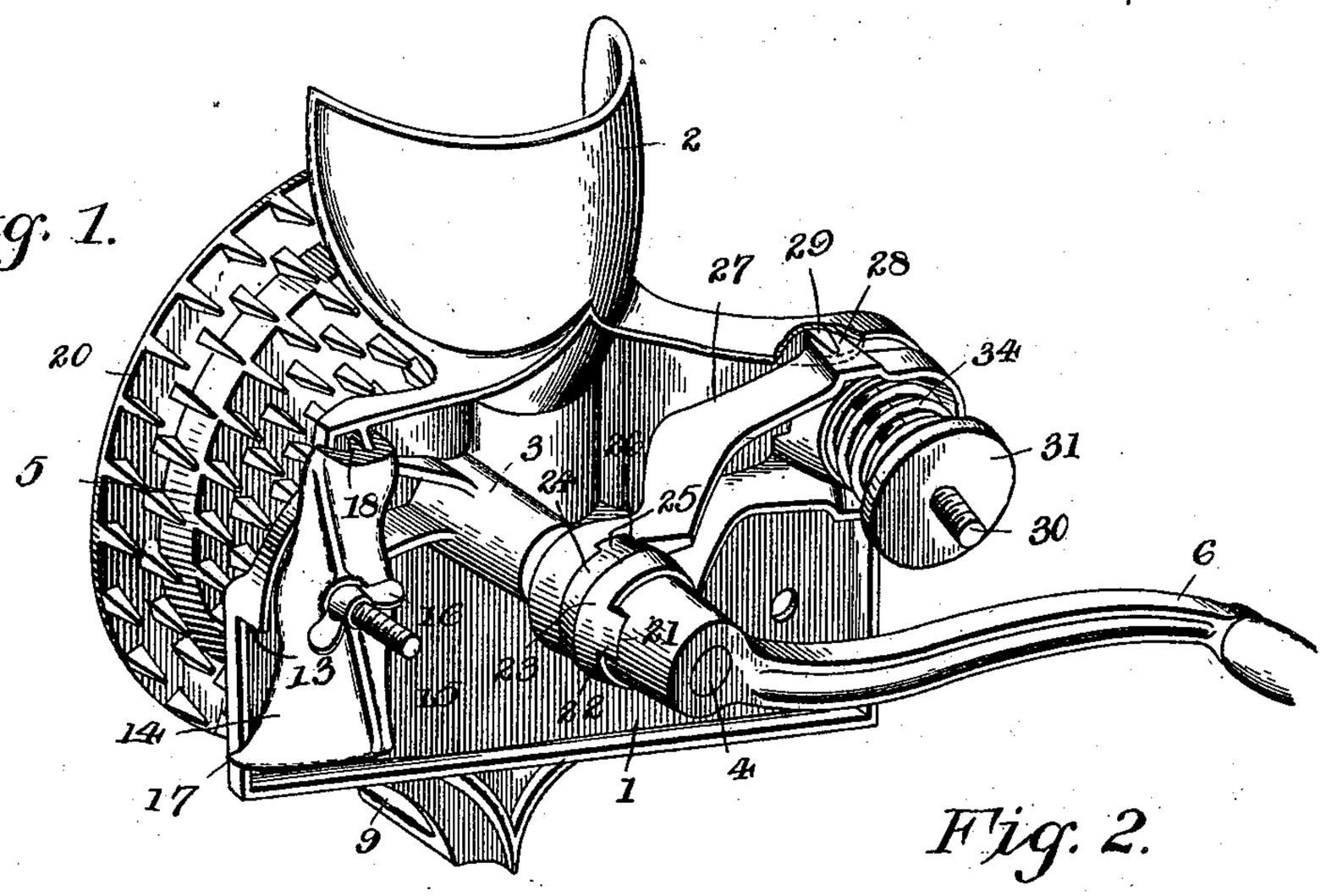
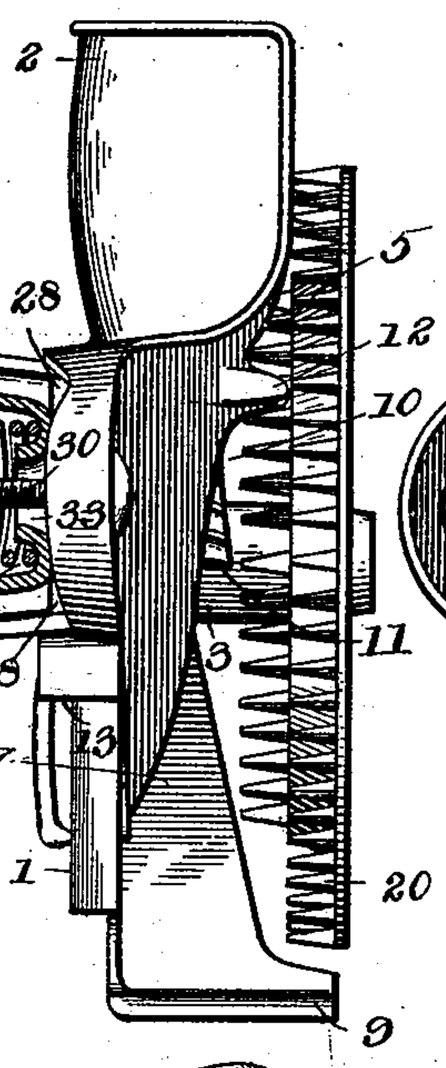


Fig. 2.

Fig. 3.



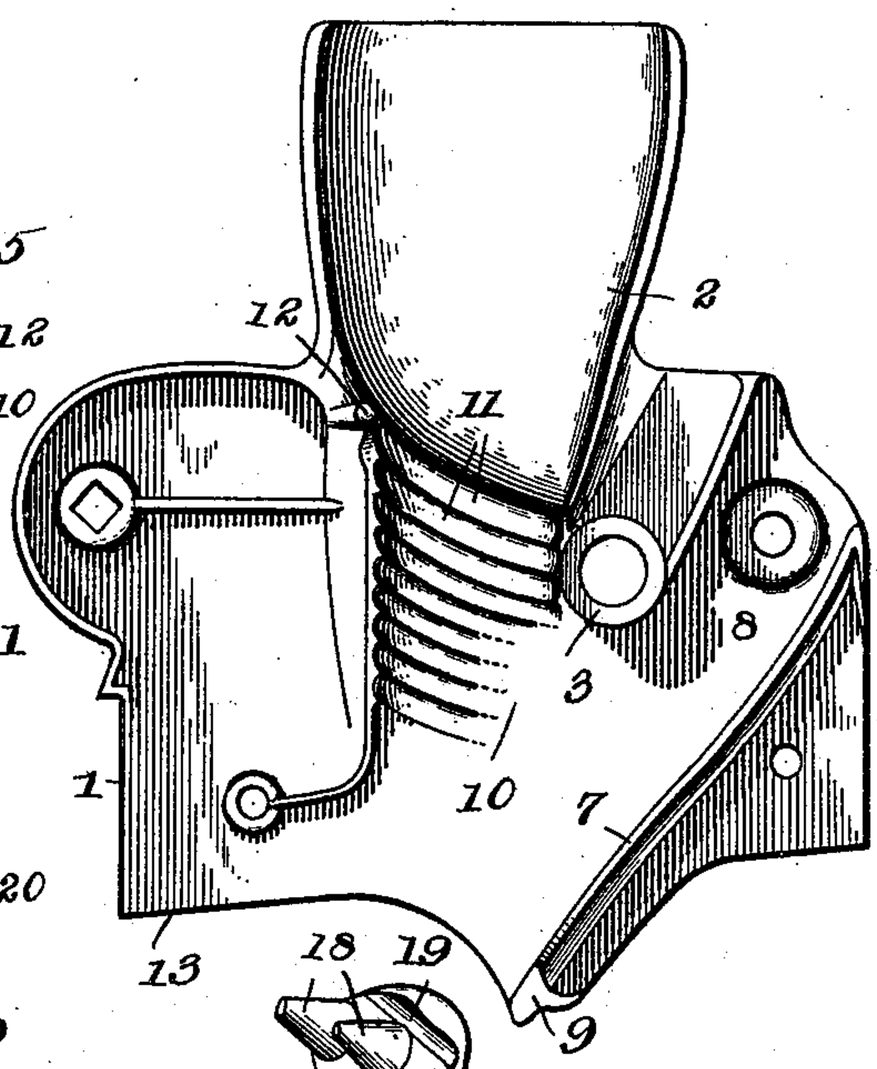
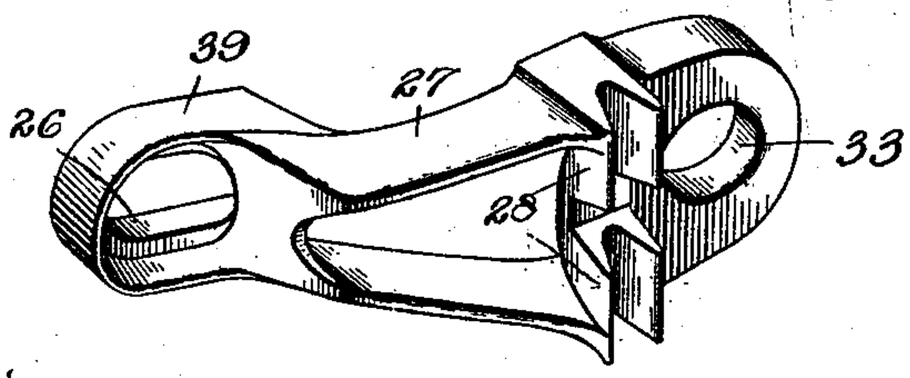


Fig. 5.

Fig. 4.



Witnesses
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Inventor

UNITED STATES PATENT OFFICE.

LOUIS ENGLEBERT GAISSER, OF CLARKSVILLE, TENNESSEE, ASSIGNOR TO ALICE R. GAISSER, OF SAME PLACE.

CORN-SHELLER.

SPECIFICATION forming part of Letters Patent No. 550,557, dated November 26, 1895.

Application filed July 17, 1895. Serial No. 556,246. (No model.)

To all whom it may concern:

Be it known that I, LOUIS ENGLEBERT GAISSER, a citizen of the United States, residing at Clarksville, in the county of Montgomery and State of Tennessee, have invented a new and useful Corn-Sheller, of which the following is a specification.

The purpose of the present invention is the construction of a machine for shelling corn, and which can be readily attached to the straight side of a box or to the curved side of a barrel or other support without requiring any change in the relative location of the parts, and in which the tension for holding the toothed wheel to its work can be varied at will and to suit the relative size of the ear of corn to be shelled.

A further purpose of the invention is the provision of a machine comprising a minimum number of parts, and which will admit of the said parts being cheaply cast, and which will perform the required work in a rapid and satisfactory manner.

With these and other objects in view which appertain to the nature of the invention, the latter consists of the novel features which hereinafter will be more particularly set forth and claimed, and which are illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a corn-shelling machine constructed in accordance with the present invention, parts being broken away. Fig. 2 is a side elevation of the frame. Fig. 3 is a rear view of the machine, parts being broken away. Fig. 4 is a detail view of the clamp. Fig. 5 is a detail view of the arm or lever for transmitting the pressure of the tension-spring to the toothed wheel.

The frame 1 is formed with a hopper 2, which projects vertically from its upper edge, and with a bearing-sleeve 3, in which is journaled the shaft 4, having the toothed wheel 5 secured to one end thereof and the crank 6 attached to the opposite end. A diagonally-disposed flange 7 is formed on the inner face of the frame 1 and provides a chute or passage 8 to give proper direction to the shelled corn and the cob, and this flange 7 terminates at its lower end in a lateral extension 9, which projects across the path of the toothed wheel 5 and is located in vertical alignment with the rear wall of the hopper 2, and its purpose is to prevent the grain and cob from following the toothed wheel and to disengage the same when the lower end or portion of the toothed wheel is reached. A channel 10 occurs on the inner face of the frame 1 in vertical alignment with the hopper 2 and is provided with a series of spirally-formed ribs 11, which in the operation of the machine co-operate with the teeth of the wheel 5 and rotate the ear of corn, so as to bring every portion thereof in engagement with the said toothed wheel, by means of which every vestige of the grain is removed from the cob, and these spiral ribs also serve to feed the ear through the machine in the manner well understood. A projection 12 extends laterally from the frame and occurs at the junction of the hopper with the channel 10 and in line with the rear walls of the said hopper and channel and is designed to prevent the wedging of the ear of corn between the toothed wheel and the hopper.

The lower portion of the frame 1 is expanded longitudinally and is formed with shoulders 13 to extend over and rest upon the top edge of a box, barrel, or other support to which the machine may be attached. A clamp 14 is provided for the forward end of the frame 1, and a bolt 15, having a thumb-screw 16, secures the clamp 14 to the frame and binds the support to which the machine is attached between the frame and the lower portion of the said clamp. This clamp 14 is a short bar or casting, having prongs 17 at its lower end to bite into the support and obtain a firm grip thereon, and the upper end of the said bar is formed with two lugs 18, which extend upon opposite sides of a strengthening-rib of the frame, and with a transverse groove 19 to receive the upper flanged edge portion of the said frame, whereby the relative position of the said clamp is maintained at all adjustments thereof and whereby accidental slipping is wholly obviated.

The toothed wheel 5 is firmly attached to one end of the shaft 4 and is limited in its inward movement by engaging with the end of the bearing-sleeve 3, and the peripheral edge portion 20 of the toothed wheel is offset and studded with teeth, so as to facilitate the

grasping of large ears of corn when the latter are placed in the hopper 2. As shown, the teeth on the offset portion 20 are set staggering; but, if preferred, a single row of teeth can be employed. The outer end of the shaft 4 is screw-threaded and receives the end of the crank 6, which is correspondingly screw-threaded and detachably connected with the said shaft. A notch or depression 21 occurs on the inner side of the crank 6 and matches with and receives a corresponding projection 22 on the outer face of a washer or collar 23, mounted upon the shaft 4 and disposed opposite the inner end of the crank 6. A similar collar or washer 24 is mounted upon the shaft 4 and has a projection 25 on its inner face, so as to enter a depression or opening 26 in the inner end of the pressure arm or lever 27. The opposing faces of the two collars or washers 23 and 24 are smooth, so as to offer little resistance to the free movements of the one upon the other. The collar 24 remains stationary by reason of its positive engagement with the pressure-arm 27, whereas the collar or washer 23 rotates with the crank 6. A lubricant is placed between the meeting faces of the two collars or washers 23 and 24, so as to relieve friction and facilitate their relative movements.

The pressure arm or lever 27 is formed on its inner face and near its outer end with pairs of lugs 28, which are adapted to sit astraddle of outwardly-extending projections 29 of the frame 1 and which constitute a fulcrum for the said arm or lever, and its outer end is apertured for the passage of a bolt 30, having a thumb-nut 31. An annular groove or seat 32 is formed in the outer face of the pressure-arm 27 around the bolt-opening 33, and the inner end of a coiled compression-spring 34 is fitted therein. The inner face of the thumb-nut 31 has an annular enlargement 35, designed to enter the outer end of the said compression-spring 34, which latter is centralized upon the bolt 30 by means of the annular seat 32 and the circular enlargement 35, as will be readily understood. The arm or lever 27 extends parallel with the frame 1 for the greater part of its length and has its inner end offset, as shown at 36, so as to clear the outer end of the bearing-sleeve 3 and receive the shaft 4 passing therethrough, and for the sake of economy and lightness of construction the pressure-arm is made open or in a skeleton form. The inner end of the pressure arm or lever 27 exerts an outward pressure upon the shaft 4, thereby holding the toothed wheel 5 yieldingly against the inner end of the bearing-sleeve 3. Obviously by a proper adjustment of the thumb-nut 31 the tension of the spring 34 can be varied and the force for holding the toothed wheel to its work be changed at will.

The machine is intended to be provided in different sizes and a variety of patterns. Therefore it is to be understood that in the construction of the same changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new is—

1. In a corn-shelling machine, the combination with the frame having a bearing sleeve, a toothed wheel having its shaft journaled in the said bearing sleeve and adapted to move longitudinally therein, and a pressure arm or lever fulcrumed on the frame and having its inner end embracing the shaft of the toothed wheel, of a tension spring for creating a pressure which is transmitted by the said arm or lever to the shaft of the toothed wheel, a crank applied to the said shaft for rotating the toothed wheel, and similar collars mounted upon the outer portion of the shaft and having positive engagement with, respectively, the pressure arm or lever and the crank, the opposing faces of the collars being smooth so as to move freely the one upon the other, substantially as set forth.

2. In a corn-shelling machine, the combination with the frame having a flange and a vertical rib at its upper end, and having its lower portion extended longitudinally and having shoulders a short distance from its lower end, of a clamp disposed at one end of the frame and comprising a bar having prongs at its lower end and lugs and a transverse groove at its upper end to fix the position of the clamp and prevent accidental displacement thereof, the said lugs extending upon each side of the aforesaid vertical rib, and the transverse groove receiving the aforementioned flange at the upper end and a bolt having a thumb screw for connecting the clamp with the frame and binding the said clamp upon the support to which the machine is attached, substantially as set forth.

3. In a corn-shelling machine, the combination with the frame having a ribbed projection 29 at one end and a shaft journaled in the frame and capable of longitudinal movement and carrying the toothed wheel, of a pressure arm having pairs of lugs 28 to sit astraddle of the projection 29, and formed with the annular seat 32, and having its inner end engaging with the said shaft, a bolt for connecting the frame and pressure arm, a tension spring mounted upon the said bolt and having its inner end fitted in the annular seat 32, and a thumb nut on the outer threaded end of the bolt and having an annular enlargement to enter the outer end of the said tension spring, substantially as set forth for the purpose described.

4. The herein shown and described corn-shelling machine, comprising a frame having a bearing sleeve, a hopper, a vertically-disposed channel formed with spiral ribs, a projection at the rear wall of the hopper and opposite the juncture of the said hopper and channel, and having a diagonally-disposed flange terminating at its lower end in a lateral

extension which projects across the path of the toothed wheel and which forms a chute or passage, a shaft journaled in the bearing sleeve and capable of longitudinal movement therein, a toothed wheel secured to one end of the shaft and having an offset peripheral edge portion formed with teeth, a crank secured to the opposite end of the said shaft, a pressure arm fulcrumed upon the frame and having its inner end offset and embracing the said shaft, a bolt and nut connecting the pressure arm with the frame, a compression spring mounted upon the said bolt and centralized thereon by means of a seat in the pressure arm and a circular enlargement of the thumb nut, similar collars mounted upon the outer portion of the said shaft and having positive engagement with the pressure arm and the crank, the opposing faces of the said collars being smooth, and a clamp for securing the frame or machine to a suitable support, substantially as set forth.

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

LOUIS ENGLEBERT GAISSER.

Witnesses:
C. E. DEAN,
W. J. MANNING.