

J. D. LEATHERY.
BEAN AND PEA HULLER.
APPLICATION FILED DEC. 11, 1912.

1,060,465.

Patented Apr. 29, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

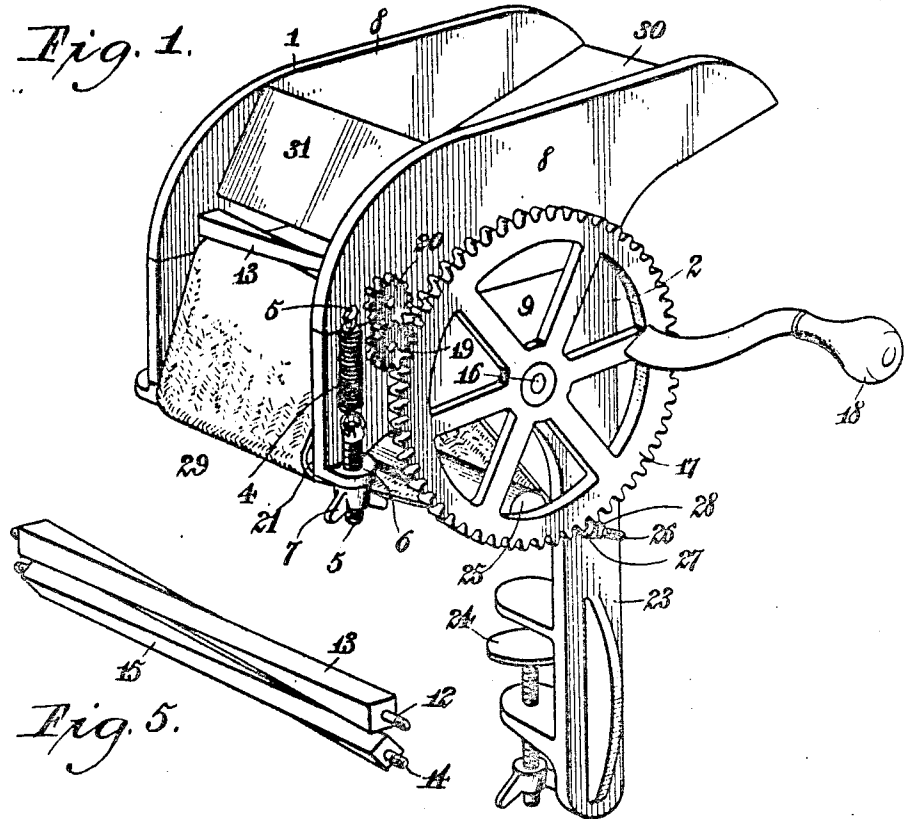


Fig. 5.

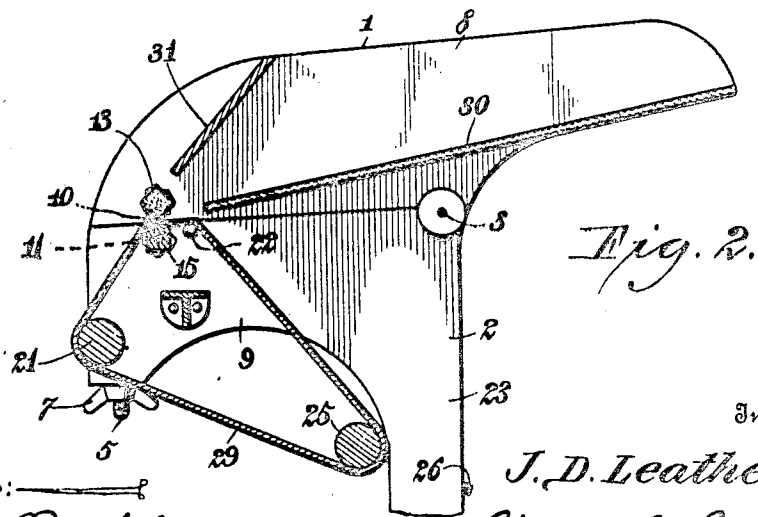


Fig. 2.

Witnesses: _____
Christ Feinle, Jr.,
D. Gould.

Inventor,
J. D. Leathery.
By Victor J. Evans,
Attorney.

J. D. LEATHERY.
BEAN AND PEA HULLER.
APPLICATION FILED DEC. 11, 1912.

1,060,465.

Patented Apr. 29, 1913.

2 SHEETS—SHEET 2.

Fig. 3.

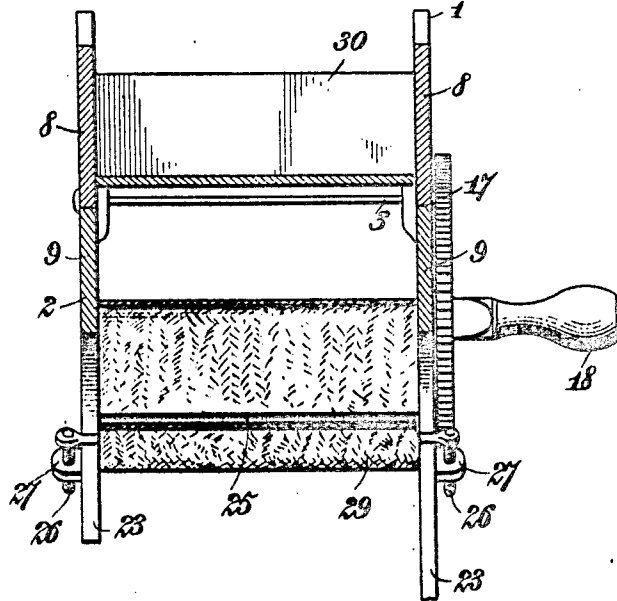
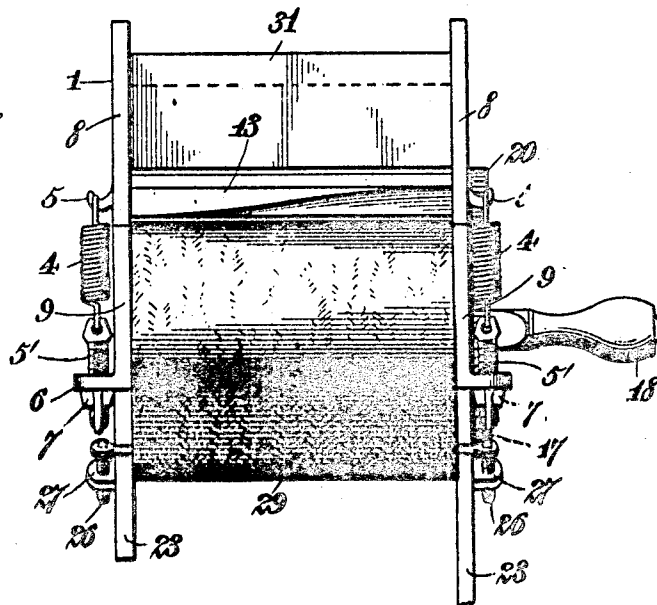


Fig. 4.



Witnessed: _____
Christ Peinle, Jr.,
De Could.

Inventor,
J. D. Leathery.
By Victor J. Evans,
Attorney

UNITED STATES PATENT OFFICE.

JOHN D. LEATHERY, OF HARRISBURG, PENNSYLVANIA.

BEAN AND PEA HULLER.

1,060,465.

Specification of Letters Patent.

Patented Apr. 29, 1913.

Application filed December 11, 1912. Serial No. 736,161.

To all whom it may concern:

Be it known that I, JOHN D. LEATHERY, a citizen of the United States, residing at Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented new and useful Improvements in Bean and Pea Hullers, of which the following is a specification.

This invention relates to an improved bean and pea huller of a hand-operated type and constructed particularly for household use.

The main object of the present invention is the provision of a pea or bean huller in which the peas or beans may be continuously fed in bulk and are properly and effectively hulled, the pods and refuse being delivered in one direction and the peas and beans in another.

A further object of the invention is the provision of hulling mechanism which is so constructed as to insure a proper hulling of the pea or bean without regard to the position in which the same is fed to the mechanism and without liability of crushing or breaking the peas or beans.

The invention in its preferred form of details will be described in the following specification, reference being had to the accompanying drawing, in which:

Figure 1 is a perspective view of the improved huller. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 is a transverse vertical section of the same taken in rear of the hulling mechanism. Fig. 4 is a front elevation. Fig. 5 is an enlarged perspective view of the hulling rollers.

Referring particularly to the accompanying drawings, the improved huller is made up of two sections, an upper section 1 and a lower section 2. The sections are hingedly connected at one end, as at 3, and provided at the opposite end with spring adjusting means including a spring member 4 having a ring at one end to engage a hook 5 carried by the upper section 1 and connected at the opposite end to a fitted bolt 5 passing through an eye 6 on the opposing member and engaged by a wing nut 7 below the eye. By this means the forward ends of the sections are held together in a more or less yieldable manner, the pressure of the yielding connection being adjustable, as will be obvious. The upper section includes side boards 8 arranged in spaced parallel relation and when the sections are assembled in

operative positions the lower edges of the side boards 8 overlie and rest upon the upper edges of the side boards 9 of the lower section, said latter side boards being spaced apart in correspondence with the spacing of the upper side boards. In the lower edges of the upper side board near its free or forward end are formed slotted ways 10 opening through said lower edge and extending vertically for a short distance. Similar slotted ways 11 are arranged in the upper edge of the side boards of the lower section, the slots 10 and 11 registering with each other when the respective sections are in operative relation. In the slots 10 of the upper section is mounted the shaft 12 of the upper hulling roller 13 while a shaft 14 of the lower hulling roller 15 is mounted in the slots 11 on the lower section. By this means the hulling rollers are permitted a limited vertical play with relation to each other, the slots at the same time affording a simple and easy means for inserting the respective hulling rollers in place and removing them when desired.

The hulling rollers are of peculiar construction being preferably of rectangular outline with the corners slightly rounded and twisted so that each edge or corner presents a sinuous line longitudinally of the roller. The upper roller is preferably formed as if it were twisted in one direction from one end while the lower roller is formed as if twisted in the opposite direction from the same end.

Mounted upon the shaft 16 extending through the lower section 2 at a point below and rearwardly with respect to the hulling rollers is a drive gear 17 provided with an operating handle 18 and of a size to mesh with a gear 19 secured upon the shaft of the lower hulling roller, said gear 19 in turn meshing with a gear 20 secured upon the shaft of the upper hulling roller. The gears 19 and 20 may be secured in any appropriate way upon the shaft being of course together with the drive gear 17 arranged beyond and immediately adjacent one of the side bars. By preference the gears are threaded upon the shafts of the hulling rollers to provide for their convenient removal while at the same time preventing the possibility of operating the parts in the reverse direction. For example, the gear 19 of the upper hulling roller fitting a right hand thread on the lower hulling

roller fits a left hand thread on the shaft. As long, however, as the gears are driven in the proper direction the gears will operate, but on reverse movement the gears will simply unscrew from the shafts without effect on the hulling rollers.

The hulling rollers are peculiarly arranged and the gears initially disposed so as to maintain this arrangement during the operation of the hulling rollers. In this arrangement the square or flat surface of either roll is always in cooperation with an edge of the other roll. This is more clearly shown in a detail figure of the drawings and forms a very essential part of the present invention, as by it an edge of either roll will cooperate only with a flat or plain surface of the opposing roll.

Mounted in the section 2 below and in advance of the lower hulling roller is a guide roller 21, a second guide roller 22 being arranged in rear of and approximately in the same horizontal plane as the lower hulling roll. The lower section has depending arms 23 arranged adjacent its rear end, one of said arms being of greater length than the other and formed with any desired form of clamping means 24 whereby the huller as a whole may be secured to a table or other fixture. Supported in the arms 23 is a tension roll 25, the spindle of which is connected by threaded rods 26 with eyes 27 carried by the arms 23, the rods 26 beyond the eyes being provided with nuts 28. A canvas belt 29 of rough texture and endless form passes between the hulling rollers, over the lower one, around the guide roller 21, around the tension roller 25 and over the guide roller 22. By adjusting the tension roller through the medium of the nuts 28 in cooperation with the threaded bolts 26 the tension of the belt may be changed as desired, in an obvious manner.

Secured in the section 1 is a bottom 30 inclining downwardly and forwardly toward the hulling rollers, said bottom together with the sides of the section forming a feed hopper. A deflecting board 31 is secured between the side boards of the upper section of the huller, said board inclining downwardly and forwardly to a position just above the upper hulling roll. The forward edge of the bottom 30 terminates approximately at a point above the roller 22 being vertically spaced from said roller, however, to permit the hulled beans or peas to pass between the forward edge of said board and the canvas belt.

In use the beans or peas are placed in the hopper in bulk and will find their way onto the canvas belt between the roller 22 and the lower hulling roller. The deflecting board 31 serves to insure a bottom feeding of the peas or beans keeping back the

upper mass, the bottom feeding being materially aided by the canvas belt 29. In passing through between the hulling rollers the pods are compressed with the effect to expel the peas or beans from the rear ends thereof, such peas or beans finding their way between the forward edge of the bottom board 30 of the hopper and the canvas belt and falling by gravity down the canvas belt into any receptacle which may be placed beneath the roller 25 on the table or other support.

By the peculiar formation of the hulling rollers a more certain hulling operation is effected with less damage to the peas or beans, as by having the edge of one roller cooperate with the flat face of the other it is impossible for a pea or bean hull no matter how small to pass between the rolls when containing peas or beans, and the peculiar twist given the operating edge will effectively express the peas or beans no matter whether they are presented lengthwise or crosswise to the rolls. It is impossible with this construction to crush or break a pea or bean, as the expressed pea or bean is at once shoved away from between the rollers by the flat surface and cannot be drawn in between the rolls.

What is claimed is:—

1. A pea or bean huller including a hulling mechanism comprising cooperating hulling rolls of rectangular outline in section and longitudinally twisted to present sinuous edges.
2. A pea or bean huller including a hulling mechanism comprising cooperating hulling rolls of rectangular outline in section and longitudinally twisted to present sinuous edges, and means for operating the rolls to present the flat surface of one to the sinuous edge of the other.
3. A pea or bean huller including a hulling mechanism comprising cooperating hulling rolls of rectangular outline in section and longitudinally twisted to present sinuous edges, means for operating the rolls to present the flat surface of one to the sinuous edge of the other, and an endless belt passing between the rolls.
4. A pea or bean huller including a hulling mechanism comprising cooperating hulling rolls of rectangular outline in section and longitudinally twisted to present sinuous edges, means for operating the rolls to present the flat surface of one to the sinuous edge of the other, guide rollers arranged beyond the hulling rolls and an endless belt passing between the hulling rolls and over the guide rollers.
5. A pea or bean huller including a hulling mechanism comprising cooperating hulling rolls of rectangular outline in section and longitudinally twisted to present sinuous edges, means for operating the rolls to

present the flat surface of one to the sinu-
ous edge of the other, guide rollers arranged
beyond the hulling rolls, an endless belt
passing between the hulling rolls and over
5 the guide rollers, and a hopper arranged
above and in rear of the hulling rolls.

6. A pea or bean roller including hingedly
connected sections, a tension means for per-
mitting a yielding contact of the sections,
10 a hulling roll carried by one section, a co-
operating hulling roll carried by the sec-
tions, said hulling rolls being provided with
intermeshing pinions, a drive gear mounted

on one section and meshing with one of the
pinions, a guide roller carried by one of 15
the sections, a second guide roller carried
by said section, an endless belt passing over
said guide rollers and over one of the hull-
ing rolls, and a hopper arranged in the other
section.

In testimony whereof I affix my signa- 20
ture in presence of two witnesses.

JOHN D. LEATHERY.

Witnesses:

M. B. O'DONNELL,
W. H. CROWELL.