A. ADAMS.

Corn Sheller.

No. 21,594. Patented Sept. 28, 1858.

Fig: 1.

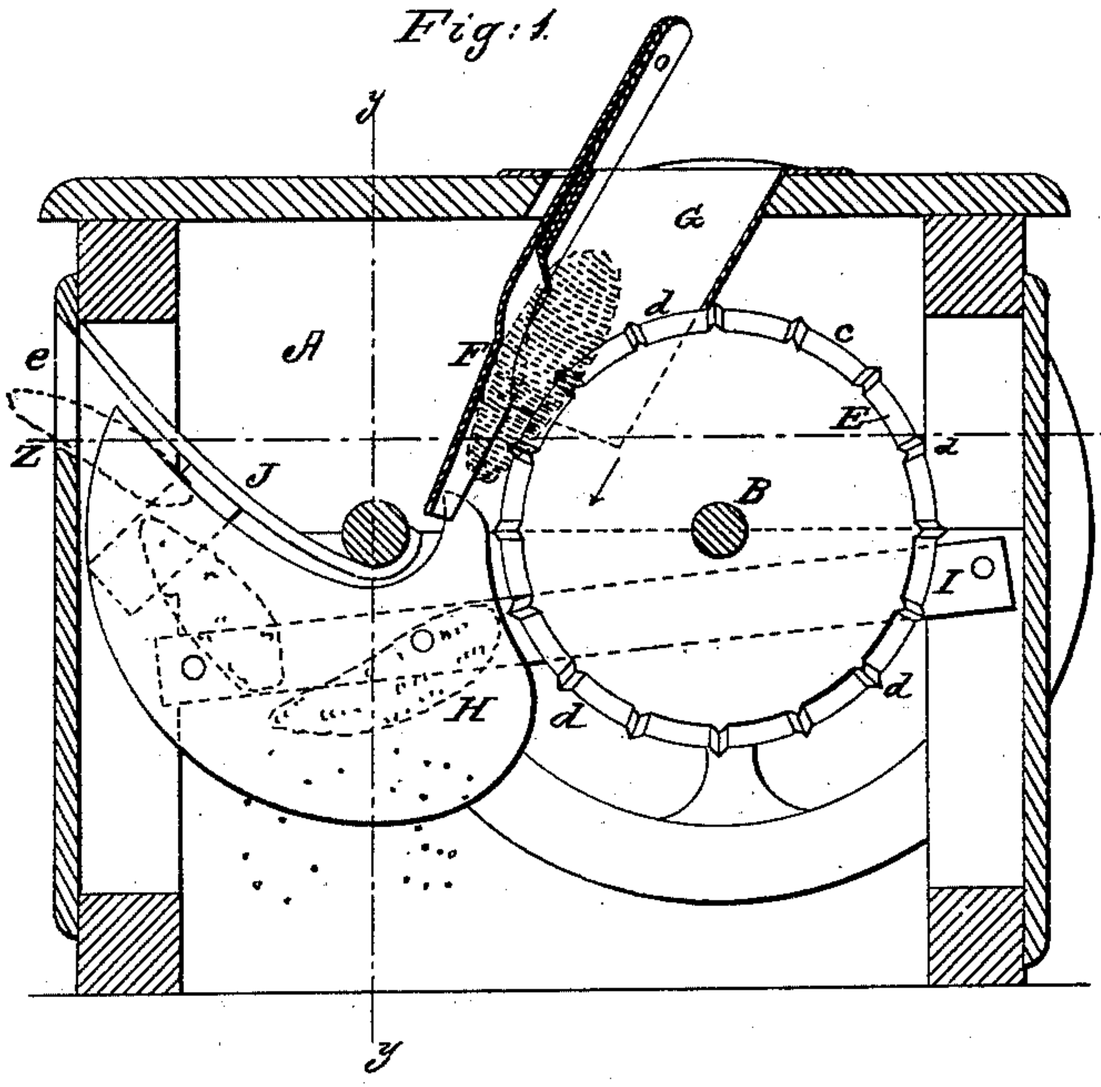


Fig: 2.

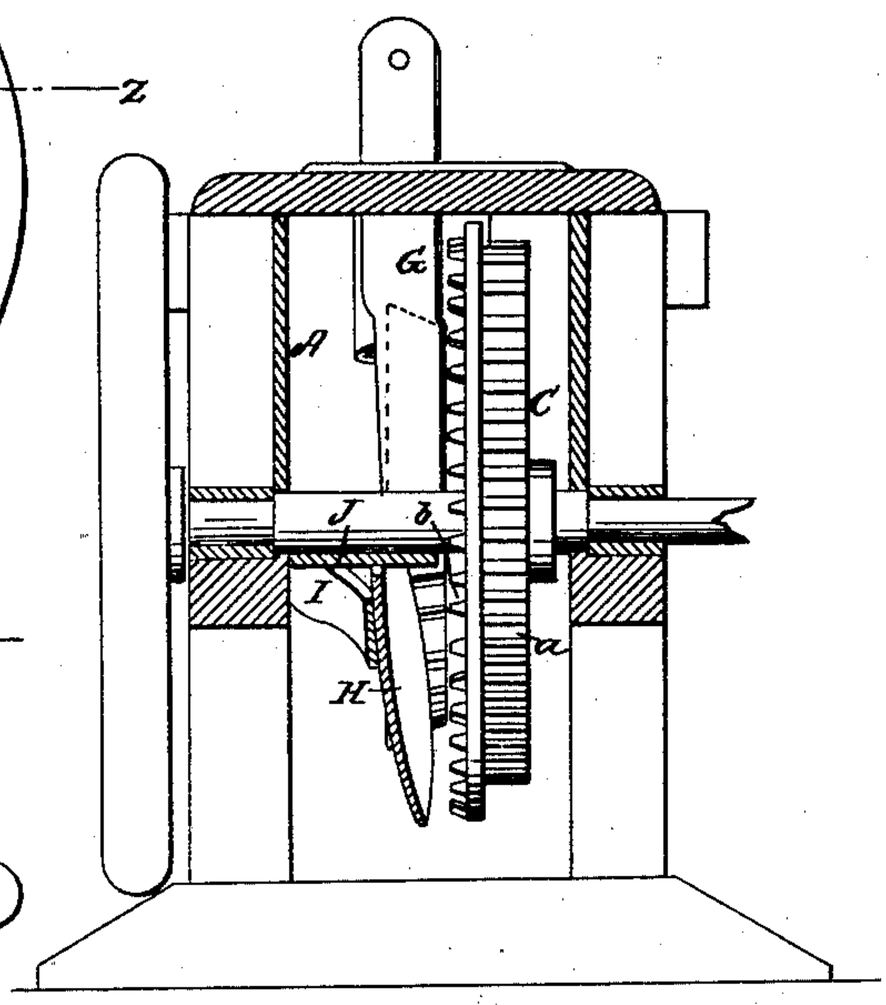
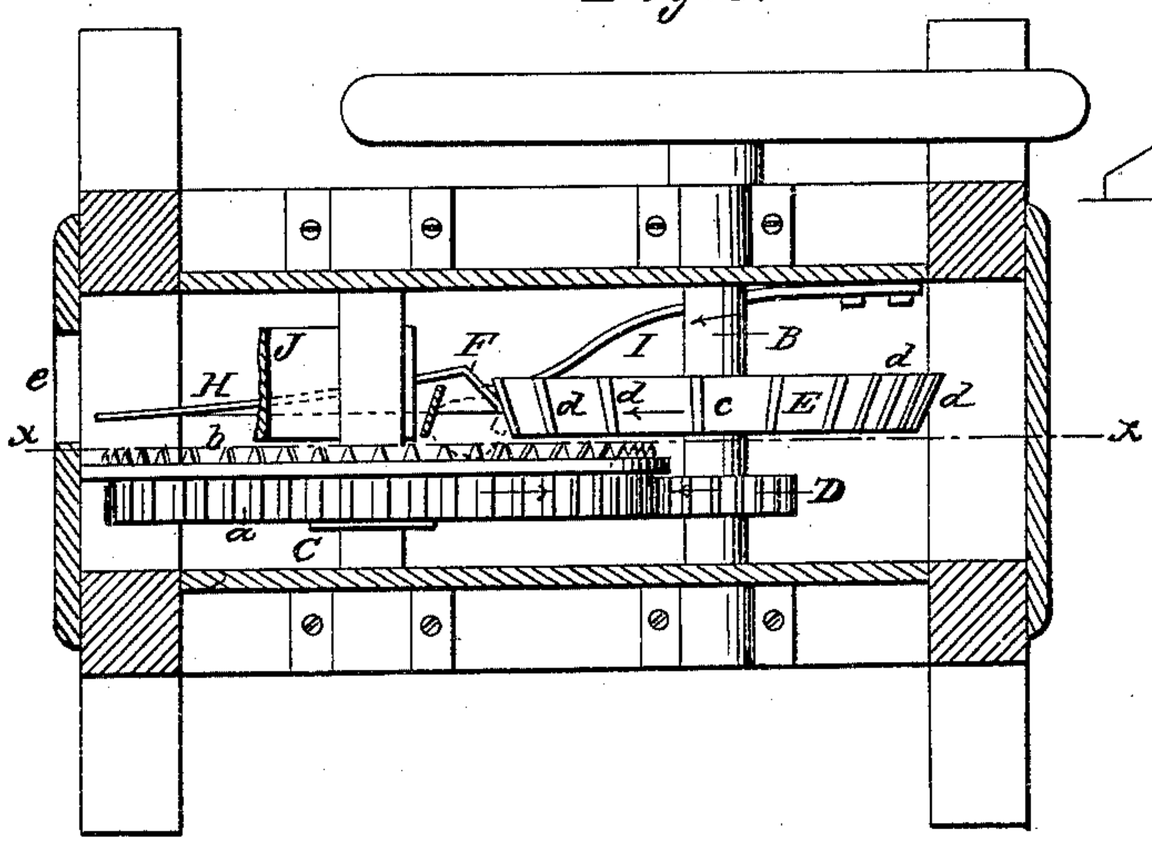


Fig: 3.



UNITED STATES PATENT OFFICE.

A. ADAMS, OF SANDWICH, ILLINOIS.

CORN-SHELLER.

Specification of Letters Patent No. 21,594, dated September 28, 1858.

To all whom it may concern:

Be it known that I, A. ADAMS, of Sandwich, in the county of Dekalb and State of Illinois, have invented a new and Improved Corn-Sheller; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a longitudinal vertical section of a corn sheller constructed according to my invention *x*, *x*, Fig. 3 indicates the plane of section. Fig. 2, is a transverse vertical section of ditto, taken in the line *y*, *y*, Fig. 1. Fig. 3, is a horizontal section of ditto taken in the line *z*, *z*, Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to an improvement in that class of corn sheller in which vertical shelling and feeding wheels are employed.

The nature of my invention consists in the employment of a swinging spring plate, which is concave on its inner face, elliptical on its lower and front edge, and concave on its upper edge, in combination with an inclined guard, which is curved or convex on its under surface, when said plate and guard are arranged in the specified relation to each other and to the picker wheel and its shaft, and to the cob discharge passage of a corn sheller for the purpose presently described. By this arrangement of parts and the particular shape and adaptation of one part to another, the corn in the process of shelling, with a slight addition of power, is subjected a second time to the action of the picker wheel in such a manner as to remove all kernels remaining on the cob after passing through the usual operation, and thus the shelling is rendered perfect and at the same time and by the same contrivance, the operation of separating the cobs from the shelled corn, is accomplished.

It is essential that the guard plate be set at the angle shown, for if set at right angles with the shaft, the cob would not be carried forward but would be torn to pieces by the action of the picker wheel and carried through between the guard and picker wheel, or if set too oblique, it would be carried forward so fast as not to complete the shelling.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, represents a box or case in which the working parts of the machine are placed. B^1, is the driving shaft which passes transversely through the box A, and has a shelling wheel C, placed on it, said wheel being within the box or case A, and constructed in the usual way, viz, of metal, having its face side provided with teeth *b*, and its periphery cogged or toothed as shown at *a*, see Figs. 2 and 3.

The teeth *a*, of the wheel C, gear into a pinion D, on the shaft B, and a wheel E is also placed on shaft B, said wheel having an inclined or beveled periphery *c*, provided with transverse ribs *d*. The wheel E, is placed quite near the shelling wheel C, its depressed end, or, the end having the smaller diameter being placed adjoining the face of the shelling wheel C, and overlapping it to a certain extent as shown clearly in Fig. 3.

F, is an elastic plate which forms the front side of the feed spout G. The above described parts are well known and separately considered operate in the usual way, viz, the ears of corn passing down the spout G, the spring F, keeping the ears against the wheels C, E, the latter rotating the ear while the former shells the corn therefrom. The difficulty however previously attending this class of machines has been that the ears were not subjected sufficiently long to the action of the wheel C, and if the ears happened to be a little damp they would be but imperfectly shelled. I obviate this difficulty by having a metal plate H, placed opposite the face side of the lower part of the shelling wheel C, said plate being slightly concave at its inner side. This plate is attached to a spring I. Directly above the plate H, a curved plate or bar J, is placed, said plate or bar extending outward to the end of the box or case through which a discharge aperture *e*, is made. The form of the plate or bar J, and its relative position with the plate H, are shown clearly in Fig. 1.

The operation is as follows:—The ear of corn instead of passing directly down between the elastic plate F, and wheel C, as usual is retained against the wheel C, by the plate H, the ears being moved along by the rotation of wheel C, the whole length of the plate and the cobs discharged at *e*, the plate or bar J, preventing the ears from

passing out at the top, and the space between the lower edge of the plate and shelling wheel being too small to allow them to pass out at the bottom. The spring I is sufficiently stiff to press the ears, however, much they may vary in size, sufficiently hard against the wheel C. As the ears are shelled the corn passes down between the plate H, and wheel C, and the cobs as before stated discharged at *e*. The plate H, therefore also serves as a separator.

By this simple improvement the ordinary wheel corn shellers are rendered very efficient the ears will be perfectly shelled and damp ears as well as nubbins or imperfectly formed ears may be perfectly shelled.

I do not claim any of the parts separately but

What I do claim as my invention and desire to secure by Letters Patent, is—

The combination of the yielding plate H and guide bar or plate J, with the wheels C and E, and spout G, provided with the elastic plate F, when these several parts are constructed, and arranged for joint operation, and relatively with respect to each other and to the discharged passages, in the manner and for the purpose set forth.

AUGUSTUS ADAMS.

Witnesses:
I. E. PHELPS,
S. A. ROBINSON.