3 Sheets—Sheet 1.

A. H. SHREFFLER.

CORN-SHELLING MACHINE.

No. 188,263. Patented March 13, 1877.

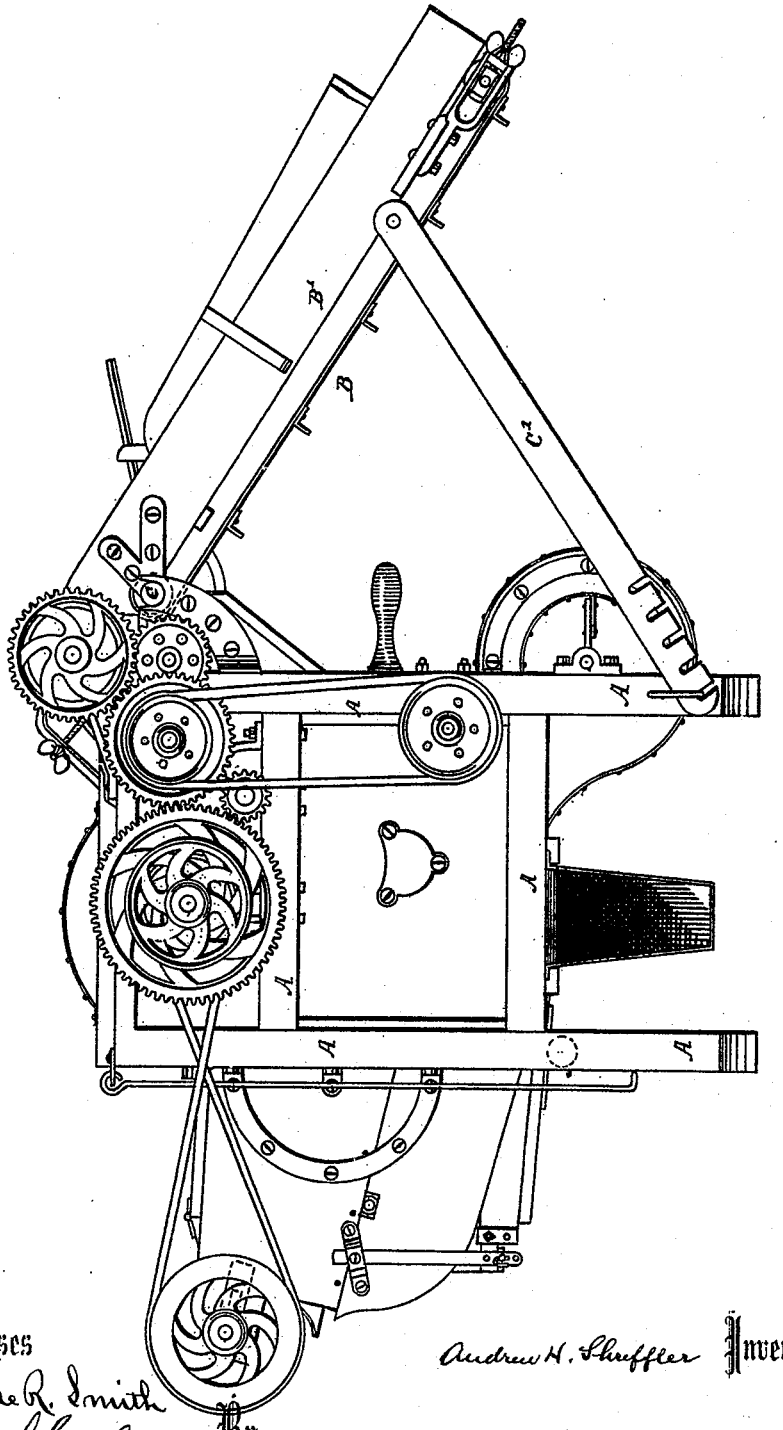

FIG. 1.

Witnesses
Forde R. Smith
Jas A Cowles

Andrew H. Shreffler Inventor

By
Munday & Evarts
Attorneys

3 Sheets—Sheet 2.

A. H. SHREFFLER.

CORN-SHELLING MACHINE.

No. 188,263. Patented March 13, 1877.

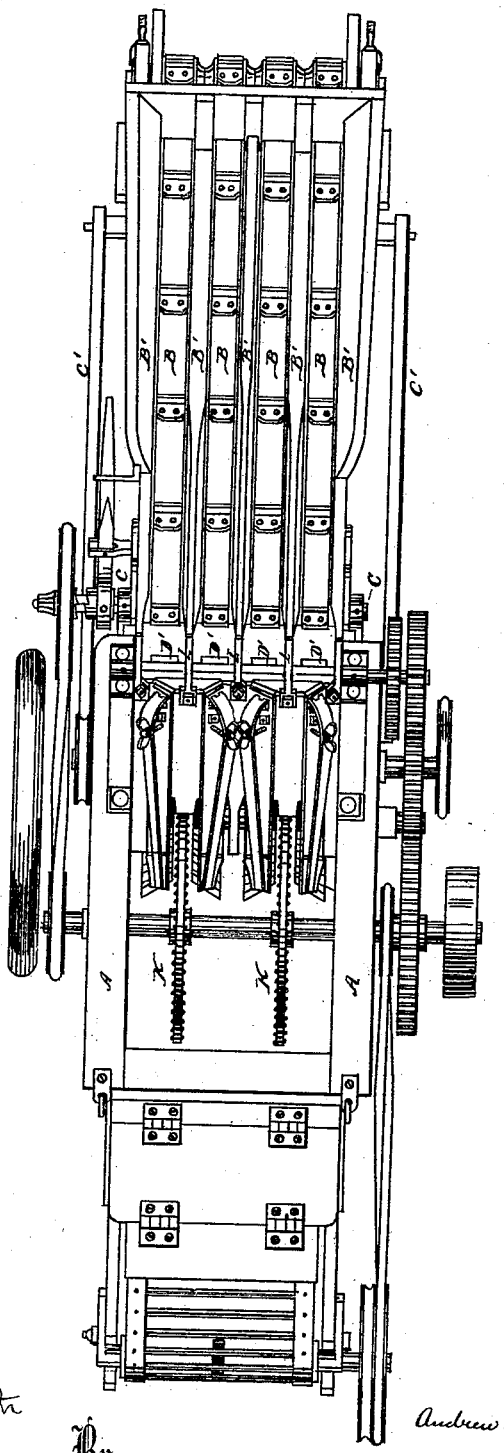

FIG. 2.

Witnesses
Forde R. Smith
Jas. A. Cowles

Inventor
Andrew H. Shreffler

By Munday T Evarts Attorneys

3 Sheets—Sheet 3.

A. H. SHREFFLER.

CORN-SHELLING MACHINE.

No. 188,263. Patented March 13, 1877.

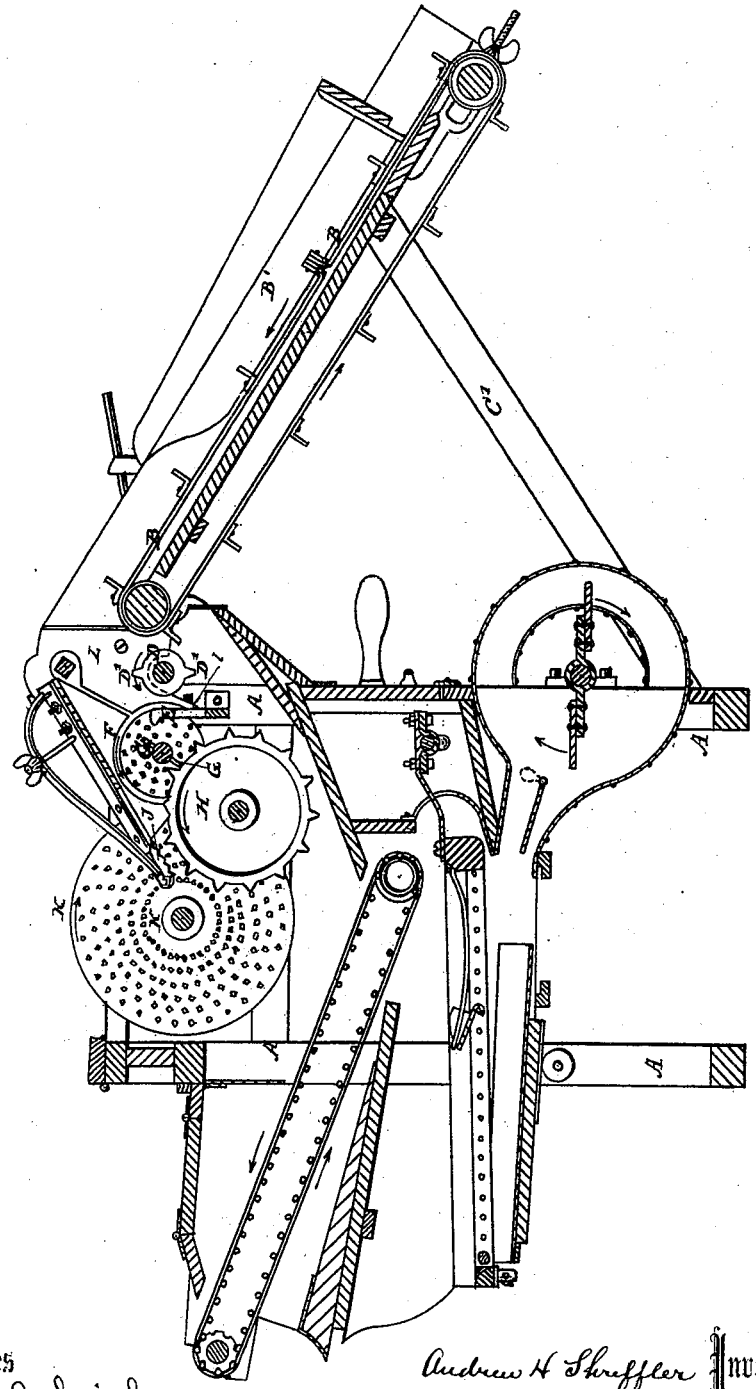

FIG. 3.

Witnesses
Forde R. Smith
Jas A Coovles

Andrew H Shreffler Inventor

By Munday & Evarts Attorneys

UNITED STATES PATENT OFFICE.

ANDREW H. SHREFFLER, OF JOLIET, ILLINOIS.

IMPROVEMENT IN CORN-SHELLING MACHINES.

Specification forming part of Letters Patent No. **188,263**, dated March 13, 1877; application filed December 16, 1876.

To all whom it may concern:

Be it known that I, ANDREW H. SHREFFLER, of Joliet, in the county of Will and State of Illinois, have invented certain Improvements in Corn-Shellers, of which the following is a specification:

In the accompanying drawing, which forms a part of this specification, Figure 1 is a side elevation of my improved corn-shelling machine. Fig. 2 is a plan view of the same, and Fig. 3 is a longitudinal vertical section.

Like letters of reference made use of in the several figures indicate like parts wherever used.

The drawing shows a complete machine, including the fan, the shaker or riddle, the cob-carrier, &c., all of which will be fully understood by those skilled in the art without further description. Such persons will also understand that the machine shown is what is technically known as a "four-hole sheller"—that is to say, it is calculated to receive and shell simultaneously four ears or four series of ears. The number of holes is, however, not material to this invention, and therefore I shall confine the description to one hole, except so far as is necessary to describe the method of partitioning the feed-holes to separate them in a many-hole sheller; and it will be only necessary to say that in such many-hole shellers one feed-hole and its train of apparatus is like the others.

In order to give room for the various parts, the shelling-wheels are elevated somewhat from the level of the ground by a frame-work, A. The corn to be shelled is fed to the machine, as usual, by an inclined endless apron, B, mounted in frame B′, which latter is formed at its lower part into a kind of hopper or receptacle into which the ears may be shoveled. This frame-work B′ and its elevating-apron are hinged to the machine by a suitable hinge, which may consist of a pair of trunnions, C C, so that the elevator may be given a greater or less pitch or inclination. By this means the feed of ears to the sheller may be regulated, as to speed. If the outer end of the elevator be lowered, the flow of ears will be lessened, and if raised it will be increased. In order to afford a means of setting the apron at any desired incline, the frame B′ is provided with adjustable legs C′, which may preferably be made to engage the lower portion of the frame of the machine, so that the elevator will be sustained from the same foundation as the machine, which will be found to be a matter of convenience in moving the machine about, and will also give greater stability and firmness to the apparatus.

The corn thus brought up by the regulating-elevator is delivered horizontally or nearly so upon a cylinder, D, which revolves in the same direction as the corn is moving, or in the direction of the feed. This cylinder fills nearly the gap between the elevator-delivery and the moving parts of the sheller-mechanism, and said cylinder is provided with wings or beaters D′, which urge the corn along, causing it to pass over the shield E into contact with the picker-wheel F and the beveled beaters G on the shaft thereof. These parts, moving in the same direction as the corn is going, hasten it along into the grasp of the feed-wheel H, which carries the ears into the throat against the serrated and spring-depressed rag-irons J, where the revolution of the stripper-wheel K removes the kernels from the cob, and the shelled corn and cobs fall down into the mechanism arranged below to receive and care for them.

The revolving beaters heretofore placed in the throat of the corn-sheller and below the path of the corn, have consisted essentially of a shaft with comparatively wide wings or beaters, and the gap in the chute within which said beater revolves is so wide that the point of the ear will sometimes drop and catch under the end of the chute below the beater, in which event the ear will turn a somersault, be broken, or clog the machine. With my device no such result is possible, because my beater is a cylinder with narrow wings, and nearly fills the gap in the chute so that the ear cannot drop nor catch as above described.

It will be noticed that the path of the ear from the elevator-delivery to the shelling-wheel is nearly a straight horizontal line, and it may be made quite so, if desired. At no point does the ear fall rapidly by its own weight, nor is the gravity of the ear at any point relied upon to carry it forward solely, but all of

the time and at all points it is carried forward by the moving surfaces of the several wheels, beaters, &c., which, for this purpose, are so arranged that the path of the corn shall be horizontal, or nearly so. This arrangement prevents the abrupt change of direction at the elevator-delivery, which is usual in machines of this class, and which, by causing the ear to tip at the rear end and enter the throat in a vibrating manner, is productive of a great deal of trouble sometimes, which is entirely obviated by the present arrangement. By the present arrangement, also, the corn is caused to proceed in a regular and even manner, being fed along smoothly instead of falling rapidly, and then being thrown violently forward, as has been customary.

Partitions L L are placed in line with each of the picker-wheels F, serving to separate the feed-holes from each other. These partitions are made with downward-projecting tongues or points *l*, which pass through the shield E, and serve to close the holes one from the other completely.

I have not described, particularly, the gearing for driving the several shafts and parts of the machine, because such gearing will be understood from the drawing upon which it is shown, and it may be varied as desired. It is sufficient, in my opinion, to state that the various parts which I have particularly alluded to as forming essential features, or which are closely connected to essential features, are marked on the drawing with arrows, to indicate the direction in which they revolve.

Having thus described my invention, that which I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the shelling-wheel in a corn-sheller, of the feeding wheel or wheels and beater or beaters, arranged substantially as specified, so that the path of the corn shall be horizontal, or substantially so from the delivery end of the elevator to the sheller-wheel.

2. The corn-sheller in which the path of the corn from the delivery end of the elevator to the sheller-wheel is horizontal, or substantially so along the moving surfaces of wheels, beaters, or other like contrivances for urging it along, substantially as specified.

3. A corn-sheller provided with a horizontal, or substantially horizontal, feed, continuing from and including the delivery end of the elevator, substantially as specified.

4. The combination, with the corn-sheller, having a horizontal, or substantially horizontal feed, of an elevator for bringing the corn up to the feed, having its delivery end upon a level, or substantially upon a level, with the feed mechanism, substantially as specified.

5. The combination, with a corn-shelling machine, of an elevator for carrying the corn to the machine, hinged or jointed to the machine, so that it may be adjusted or given different inclinations or pitch beneath the mass of corn, in order thus to govern or regulate the feed, substantially as specified.

6. The combination, with a corn-shelling machine, provided with a hinged or jointed elevator, and hopper B′, of adjustable legs or supports attached to said elevator, whereby said elevator may be supported at various inclinations, substantially as specified.

7. The combination, with a corn-shelling machine, provided with an elevator hinged or jointed thereto, and hopper B′, of adjustable legs or supports extending from the elevator to the frame of the machine, substantially as specified.

8. The forcing-beaters in the throat of the sheller, or at the commencement of the feed apparatus, consisting of a cylinder sufficiently large to nearly fill the gap in which it revolves, and support the ear as it passes, and provided with flanges, substantially as specified.

9. The partitions L L, provided with tongues *l l*, projecting downward through the shield E, to separate the feed-holes, substantially as specified.

ANDREW H. SHREFFLER.

Witnesses:
ANDREW F. DICE,
JEREMIAH OSSMAN.