(No Model.) 4 Sheets—Sheet 1.

M. S. COOK.

CORN SHELLER.

No. 255,100. Patented Mar. 21, 1882.

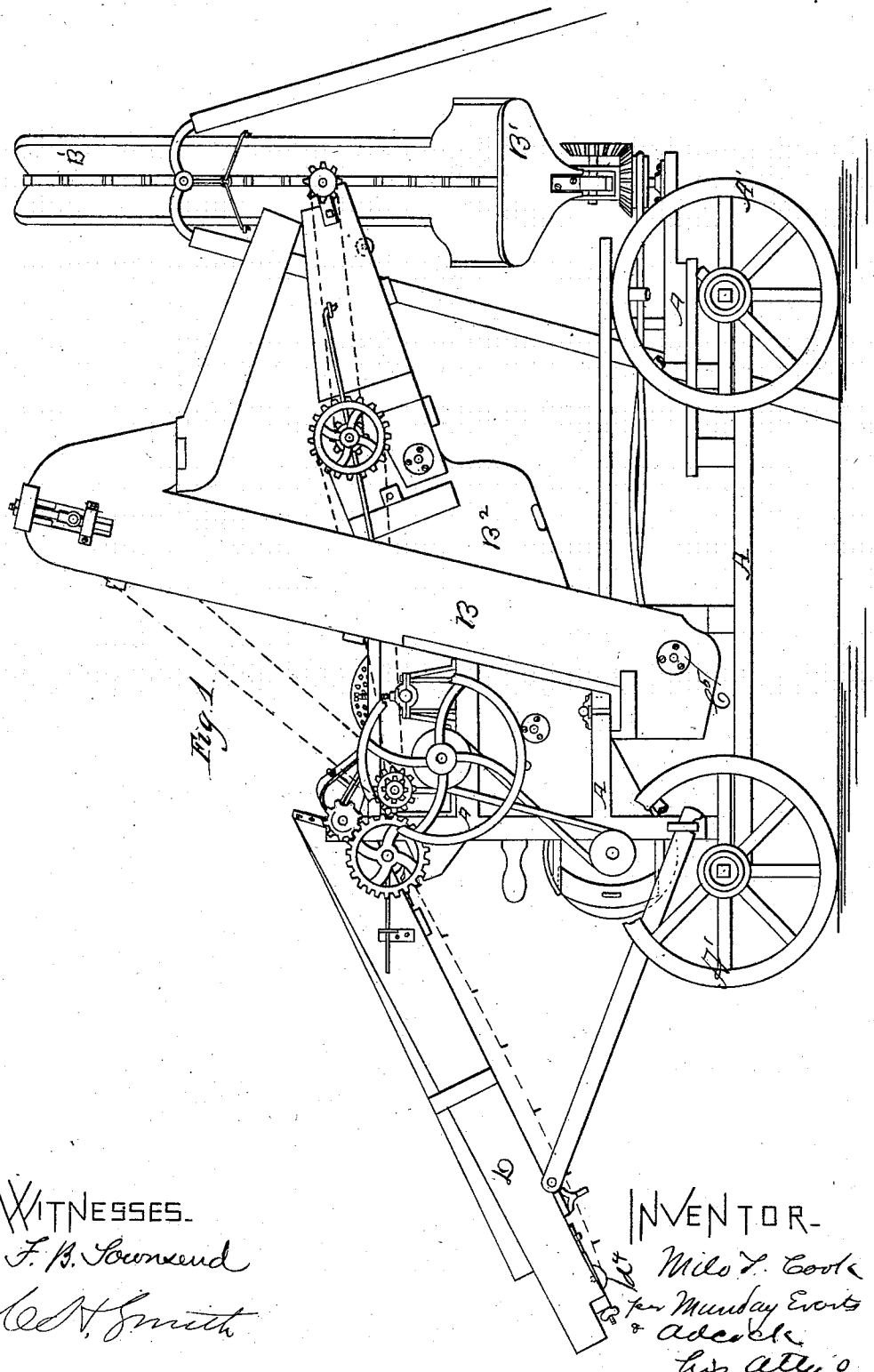


Fig. 1.

WITNESSES.
F. B. Townsend
C. N. Smith

INVENTOR.
Milo S. Cook
per Munday Evarts & Adcock
his attys

N. PETERS. Photo-Lithographer, Washington, D. C.

(No Model.)

4 Sheets—Sheet 2.

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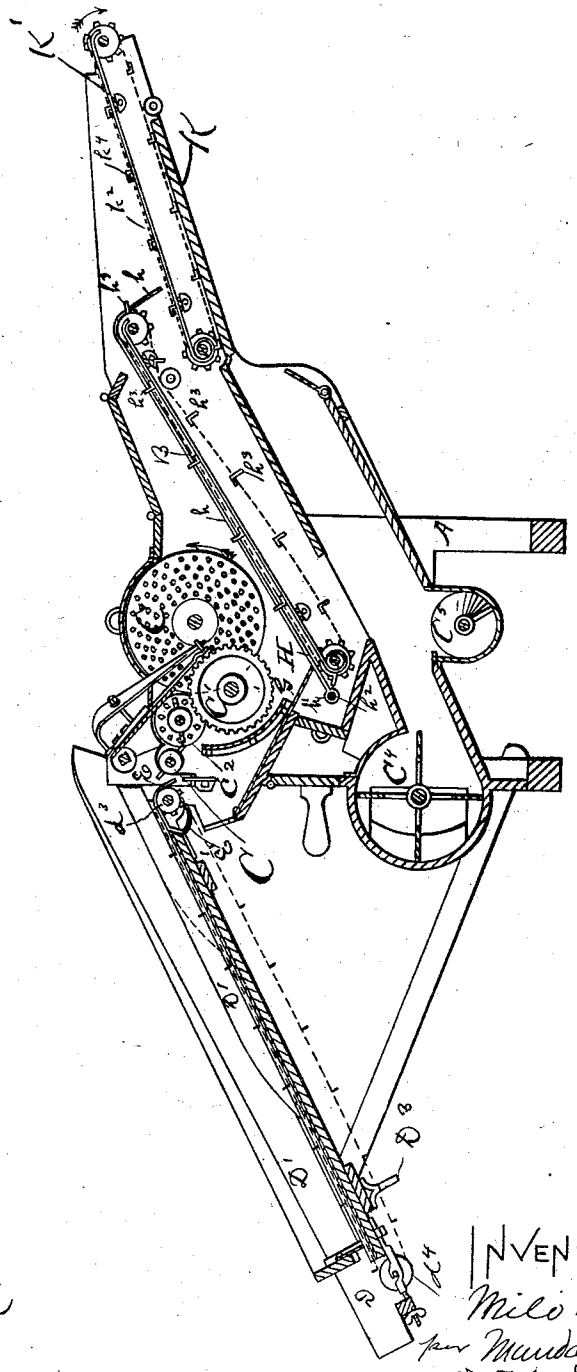


Fig. 2.

WITNESSES.
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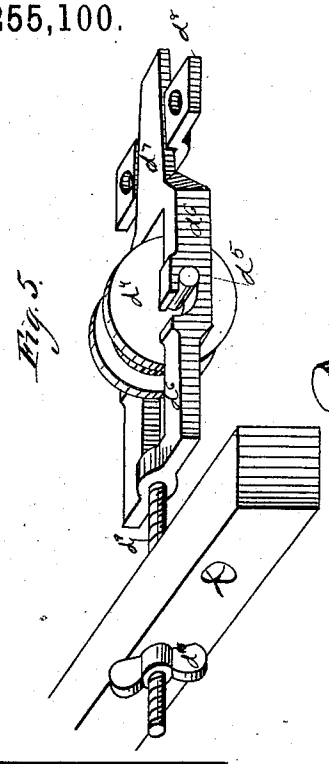


Fig. 5.

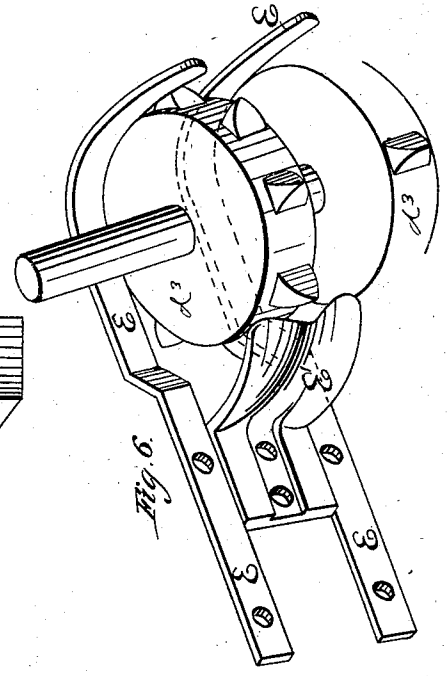


Fig. 6.

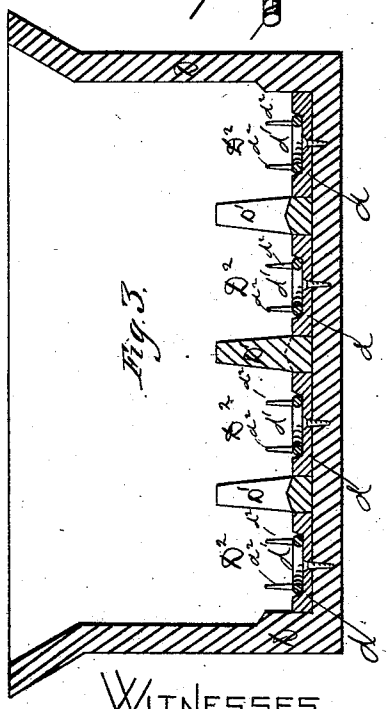


Fig. 3.

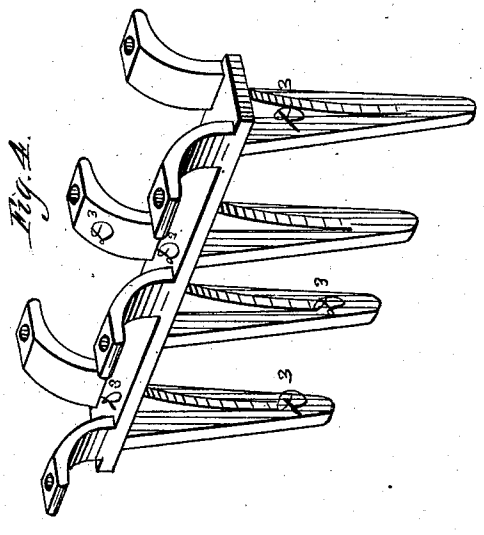


Fig. 4.

WITNESSES.

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(No Model.)

4 Sheets—Sheet 4.

M. S. COOK.

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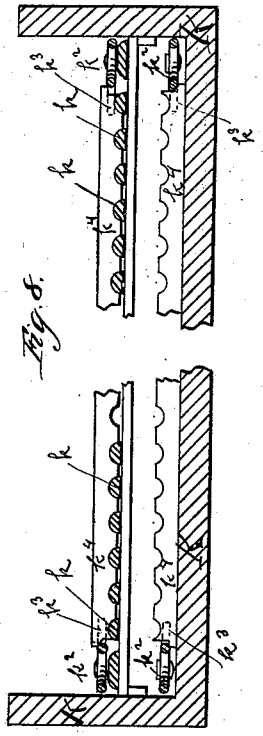


Fig. 8.

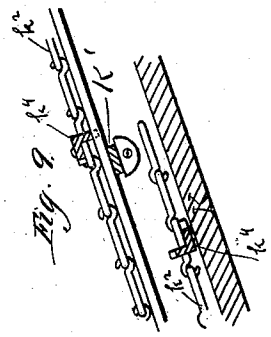


Fig. 9.

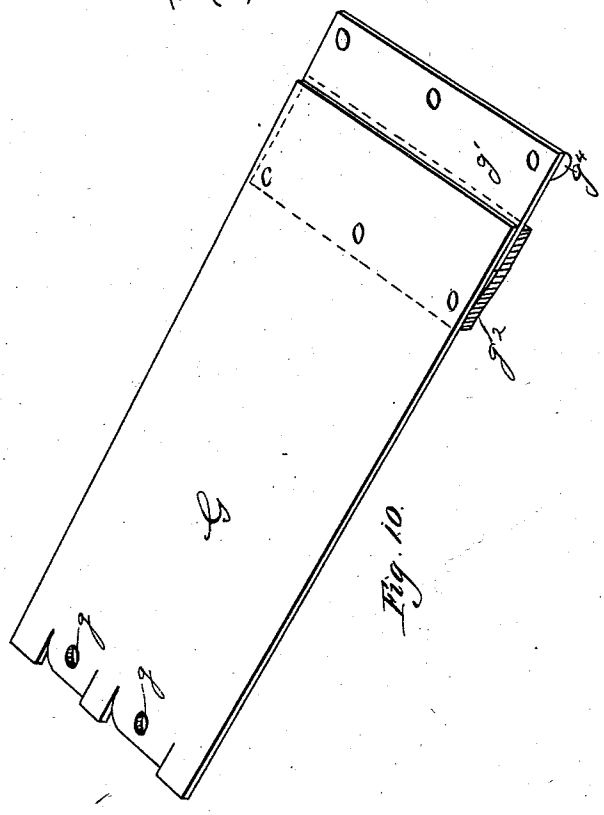


Fig. 10.

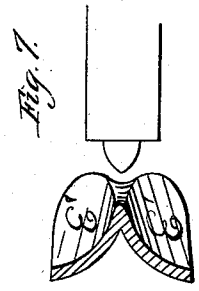


Fig. 7.

WITNESSES

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C. N. Smith

INVENTOR-

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N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

MILO S. COOK, OF ELWOOD, ASSIGNOR TO ANDREW H. SHREFFLER, OF JOLIET, ILLINOIS.

CORN-SHELLER.

SPECIFICATION forming part of Letters Patent No. 255,100, dated March 21, 1882.

Application filed December 27, 1880. (No model.)

To all whom it may concern:

Be it known that I, MILO S. COOK, of Elwood, in the county of Will and State of Illinois, have invented certain new and useful Improvements in Corn-Shellers, of which the following is a specification.

My invention relates to improvements in power corn-shellers; and the same consists in the novel devices and combinations of devices hereinafter described.

In the accompanying drawings, which form part of this specification, Figure 1 is a side elevation of a machine embodying my improvements. Fig. 2 is a vertical longitudinal section of the same, taken through the center of one of the feeding-holes. Fig. 3 is a cross-section of the feed-elevator. Figs. 4, 5, 6, and 7 are enlarged details of parts hereinafter to be described. Fig. 8 is a cross section of the cob-carrier or second separator; and Fig. 9 is a partial longitudinal section of the same, showing the endless chains; and Fig. 10 is a perspective of the vibrating back.

The same letters of reference indicate the same or corresponding parts wherever used.

In the drawings, A represents the frame of the machine mounted upon the carriage A′.

B is the shelled-corn elevator, B′ the cob-elevator, and B^2 the separator. The stripper or shelling wheels C, bevel-runners C′, picker-wheels C^2, force-feed C^3, fan or blower C^4, and screw-conveyer C^5 are all connected with suitable gearings or driving mechanisms, and may be of any ordinary construction.

D is the box or frame of the feed-elevator, provided with partitions D′, forming as many troughs or ways D^2 as there are shelling-holes in the machine. The bottoms of the ways D^2 are provided with metal tracks d, sunken in the floors of the trough for the chains d' to slide in. The endless chains d' are of the ordinary construction of sprocket-wheel chains, excepting that every seventh or eighth link, for example, is provided with prongs or projections d^2 on their upper sides for carrying the corn-ears before it in the ways D^2, which are made only slightly wider than the diameter of a large corn-ear.

d^3 are the sprocket or drive wheels at the upper end of the feed-elevator, all being mounted on the same shaft, which is connected by suitable gears with the driving mechanism of the machine, and d^4 are pulleys, one for each of the feeding-chains, each being on a separate shaft, d^5, mounted in a separate block or bearing, d^6. The block d^6 is provided with a slide or shank, d^7, which is supported by the strap d^8, secured to the bottom of the feed-elevator box, so that the block may be adjusted to regulate the tension of the chain by means of the screw-bolt d^9 and thumb-nut d^{10}.

Heretofore the lower as well as the upper pulleys have been mounted on the same shaft, and therefore incapable of independent adjustment, in consequence of which much difficulty has been experienced by reason of some of the chains being too loose and others so tight as to cause their frequent breaking. Fig. 4 shows an enlarged perspective of the chain-guide secured to the bottom of the feed-elevator near the pulleys d^4, for the purpose of guiding the chains onto the pulleys.

E is a guard, secured to the end of the feed-elevator, consisting of a curved strap of iron extending up over on each side of the sprocket-wheels, to prevent the corn falling between the sprocket-wheels over the shaft to which the sprocket-wheels are secured, and E′ is a guard, likewise secured to the bottom of the feed-elevator, to prevent the corn-ears falling under said shaft between the sprocket-wheels, in either of which cases the corn would not be properly delivered into the feeding-holes.

G is the vibratory back of the machine, secured to the frame by bolts which fit somewhat loosely in the holes g in the end thereof. g' is a rubber flap, or flap made of like material, secured at the end of the vibratory back, between the same and the cleat g^2. This flap rests upon the separator-screen H, which is composed of loose rods h, hinged at h' to a transverse rod, h^2, so that the teeth of the combs h^3, as they pass the same, raise this flap and cause it to vibrate. The teeth of the combs also strike the lower edge of the cleat g^2, and thus cause the back to vibrate or shake up and down for the purpose of delivering the shelled corn cobs and husks, which would otherwise collect on the back, to the separator. The purpose of the flap is to prevent any husks or cobs falling behind the separating-screen. Also, if the end of the vibratory back were allowed to rest upon the separating-screen, the teeth of the combs

would cause too great a vibration. To the end of the rubber flap is secured a rod or cleat, g^4, for the teeth of the comb to bear against and prevent wear.

K is the frame of the cob-carrier or second separator. The screen is composed of a series of parallel rods, k, secured by screws or otherwise to the cross-pieces k' of the frame, the distance between the contiguous rods being such as to permit the grains of corn to drop through.

k^2 are two endless chains, one on each side of the cob-carrier, of ordinary construction, excepting that one link out of every eight or ten, for example, is provided with an ear, k^3, to which one end of the comb-shaped cob-carriers k^4 is riveted. These chains are carried upon suitable wheels at each end of the cob-carrier frame. The combs k^4 pass on top of the rod-screen, and are provided on their under side or edge with notches not quite as deep as the thickness of the rods forming the screen, so that the ends of the teeth or projections will not strike against the cross-pieces of the frame as the combs move. The combs keep the screen constantly clean and free from obstructions, so that the grains of corn will readily drop through the same. The combs are made narrow, and are set at a slight backward pitch, so that they will slip under and shake up a mass of cobs and husks and allow the same to spill over back of it, instead of shoving the whole before it, and thus failing to separate the corn therefrom in case a mass of cobs and husks should chance to be delivered at once.

Certain parts of the machine shown in the drawings of this my specification are the invention, as I believe, of Louis Gillett, and I hereby disclaim the improvements claimed by him in his application of even date herewith, the parts so disclaimed being the separator, consisting of the screen of loose rods supported on a series of movable combs, the pivoted ratchet-bar in connection with the ratchet-spring, and the device for deflecting the corn-ears against the shelling-wheels, consisting of a casting with side projections located above and between the bevel-runners at their larger diameter. The track d conforms in cross-section to the under surface of the links composing the chain which rides upon it. This is a useful feature, because, aside from its function of guiding the chain, the track also serves to confine in the hollows of the links any shelled corn which may fall therein, so that such corn is carried up by the links until they reach the sprocket-wheel, when it falls into the throat of the machine and is saved. The ledges at the side of the track are also made to contribute in saving such of this loose corn as may fall upon them by making them as high as or higher than the sides of the links, so that the corn will roll off into the links and be carried forward, as above stated.

What I claim is—

1. The combination, with the trough and the endless chain traversing the same, of the metal track d, sunken in the bottom of the trough and conforming to the under surface of the chain, substantially as set forth.

2. The combination of the sprocket-wheels secured to the same shaft, the pulleys mounted on separate shafts, adjustable blocks having shanks or slides at one end supporting straps secured to the bottom of the frame, and adjusting-screws connecting said blocks at the other end to the frame, substantially as specified.

3. The combination of curved guard E with the sprocket-wheel, elevator-trough, and feed-chain provided with projections to carry the corn-ears, substantially as specified.

4. The combination of upper curved guard, E, with under curved guard, E′, the sprocket-wheel, elevator-trough, and feed-chain provided with projections to carry the corn-ears, said guards forming a continuation of the trough to guide the corn-ears over the sprocket-wheel into the feed-holes of the machine, substantially as specified.

5. The vibratory back provided at its lower end with a flexible flap, in combination with the separator-screen and movable combs, substantially as described.

6. The combination of the elevator-troughs with the feed-chains provided with projections to carry the corn-ears, upper sprocket-wheels secured to the same shaft, and lower pulleys mounted in separate blocks or bearings adjustable independently of each other.

7. The combination of the endless chains, having some of their links provided with ears, with combs riveted to said ears and provided with short teeth on their lower edge, and a screen of fixed rods on top of which said combs move or ride, substantially as specified.

MILO S. COOK.

Witnesses:
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GEORGE F. STUFFLE.