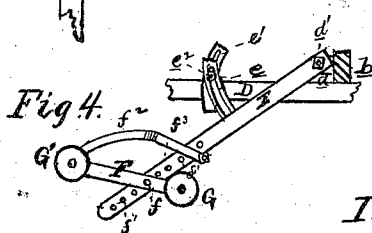
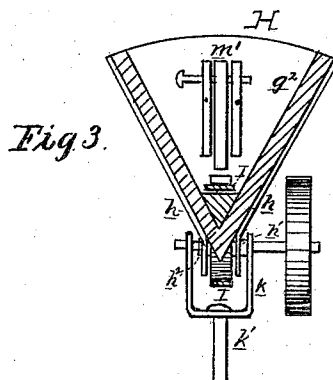
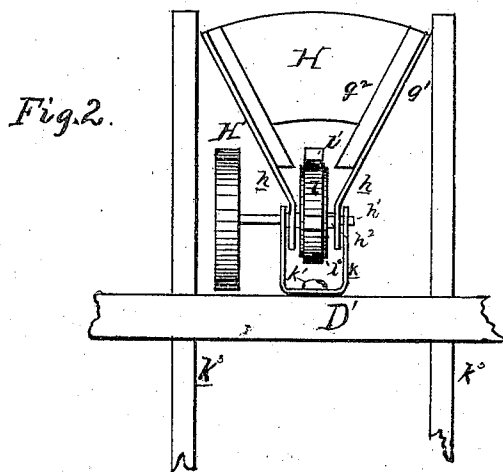
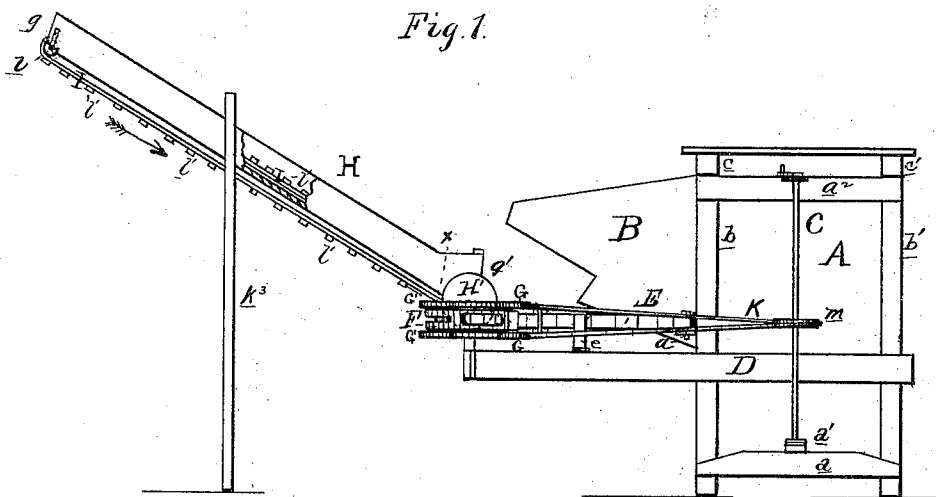


H. H. EBY.

COB-ELEVATOR FOR CORN-SHELLERS.

No. 172,719.

Patented Jan. 25, 1876.



Attest:
Chas. Thurman
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UNITED STATES PATENT OFFICE.

HENRY H. EBY, OF MENDOTA, ILLINOIS.

IMPROVEMENT IN COB-ELEVATORS FOR CORN-SHELLERS.

Specification forming part of Letters Patent No. 172,719, dated January 25, 1876; application filed October 19, 1875.

To all whom it may concern:

Be it known that I, HENRY H. EBY, of Mendota, in the county of La Salle and State of Illinois, have invented a new and Improved Cob-Carrier for Corn-Shellers; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The object of this invention is a carrier, to be used in connection with a power corn-sheller, for the purpose of carrying away the cobs, which are deposited from the spout of the corn-sheller into the lower end of the carrier, and discharging them at the other end of the same into any proper receptacle.

My invention consists, first, in the peculiar form of the carrier-spout, and in combination therewith a single narrow carrying-belt; second, in the peculiar connection between the carrier-spout and the sheller, which forms a universal joint and enables the upper end of the spout to be raised or lowered, and turned so as to discharge the cobs in any desired direction; third, in the peculiar devices for transmitting motion to the horizontal shaft of the carrier, from the vertical driving-shaft of the corn-sheller; fourth, in a peculiar device for starting the cobs in the lower end of the carrier, should they become clogged or bridged over; and, further, in the several minor combinations, all as more fully hereinafter explained.

To enable those skilled in the art to make and use my machine, I now proceed to describe the same in connection with the drawings, in which—

Figure 1 is a side elevation of the corn-shelling machine and cob-carrier, with the cob-carrier spout placed at right angles to its connecting-beam, and partly broken away to show the carrier-belt. Fig. 2 is an end view of the cob-carrying spout from its lower end, showing its connection with the beam, the said beam being separated from the remaining part of the frame; Fig. 3, a cross-section of the carrier-spout on the line *x x*, Fig. 1, illustrating the device for starting the cobs when clogged or bridged over; and Fig. 4 is a top view of the adjusting-arms for transmitting motion from the vertical driving-shaft to

the carrier-belt, showing their connection with the frame of the machine.

Similar letters denote corresponding parts in each figure.

A represents the body of an ordinary power corn-shelling machine, B the delivering-spout, and C the driving-shaft to the same machine. The driving-shaft is a vertical shaft stepped in a cross-piece, *a'*, forming a part of the lower frame *a* of the corn-sheller, and journaled at its upper end in a cross-piece, *a''*, which is supported by two uprights, *b b'*, connecting at their lower ends with the frame *a*, and at their upper ends with the beams *c c'* composing the top frame-work of the machine.

D D are two beams, one of which is secured below the plane of the delivering-spout to the uprights *b b'*, and the other to the vertical frame-work on the opposite side of the machine, extending horizontally from the rear of the sheller to a point opposite the outer end of the delivering-spout B, where they are connected by a beam, *D'*, which runs directly under the mouth of the said delivering-spout.

E is an arm resting at its inner end upon a support, *d*, which is rigidly secured to the upright *b* above the beam D, the arm being pivoted to the said support by a bolt, *d'*. To the arm E, a short distance from its inner end, is secured, hanging downwardly, an angle-iron, *e*, having a slot therein formed on the arc of a circle. The lower horizontal arm of this angle-iron rests upon a plate, *e'*, secured to the beam D, the said plate *e'* having a slot formed therein similar to the slot in the angle-iron.

A bolt is passed through the slots in the plate *e'* and iron *e*, and has a nut secured on its end, both being shown by reference to letter *e''*, thus giving the arm E horizontal play, and allowing it to be locked at any point of its movement. F is a crossed arm pivoted through one side of its center to the arm E by a bolt, *f*, which passes through one of a number of holes, *f'*, in the arm E, thus allowing the arm F to be pivoted at different points to the arm E, the advantages of which will be hereinafter explained. The arm F has extending from its inner end and pivoted thereto a brace, *f''*, which connects by a forked end, *f'''*, with the arm E, and has the ends of the

fork drawn together by a bolt and nut, so that the same can be tightened and hold the brace rigidly to the arm E, or loosened and allow it to be readily slipped along said arm.

G G are two sheaves sleeved on a shaft, one on the upper and the other on the under side of the arm F, at or near its outer end, and capable of being revolved horizontally independently of each other. G' G' are two similar sheaves on the opposite end of the arm F.

H is the carrier-spout, of triangular form, having its upper end g left open, and its lower end g^1 closed by an end piece, g^2 , with an open space in its lower part.

To the lower end g^1 of the carrier-spout are rigidly secured, one on each side, two metallic hangers, h , which project below the bottom of the spout, and support a shaft, h^1 , revolving in circular boxes h^2 , one of which is secured in the lower end of each hanger h .

H' is a large pulley secured to the end of the shaft h^1 ; and i is a small sheave keyed to the shaft h^1 , between the hangers. Pendent from the boxes h^2 , in the lower end of the hangers, is a forked support, k , which has the ends of the fork pivoted to the said boxes. This support k rests on the beam D', under the delivering-spout C, and is secured in that position by a pivot, k^1 , which enters one of two or more holes, k^2 , made in the said beam directly under the said spout B. The lower end g^1 of the carrier is so supported on the beam D', by the hangers h and support k , that its upper end can be raised or lowered, or turned to either side.

The center and upper end of the carrier-spout are supported by the pivoted supports k^2 .

A sheave, l , similar to the sheave i , is supported in hangers on the upper end g of the carrier-spout, with its upper periphery on about the plane of the bottom of the carrier-spout.

I is the carrier-belt, which is an endless belt running in the bottom of the angular carrier-spout, and over the sheaves i and l , and is provided at suitable intervals with cross-pieces l' .

K is an endless belt, which extends from a horizontal pulley, m , on the vertical shaft C. It is then passed around the outside of the upper sheave G, and around the inside of the upper sheave G'. It is then passed over the pulley H', and runs back on the inside of the lower sheave G', and outside of the lower sheave G to the pulley m , thus transmitting power from the vertical shaft C to the horizontal shaft h^1 , and thereby moving the carrier-belt I.

The cobs are delivered from the spout B into the lower end g^1 of the carrier-spout, and, on account of the angular form of the spout, slide onto the belt I, and are carried along the spout. The form of this spout prevents, almost entirely, all clogging, and requires the use of only one narrow carrying-belt, which is consequently cheaper, and less liable to get out of order.

The cobs, however, are liable sometimes to become clogged or bridged over at the lower end of the spouts, so as to let the cross-pieces l' pass under without taking hold. I remedy this in the following manner: On the inside of the end pieces g^2 is hung a leg, m' , pivoted at its upper end, and projecting down far enough to be caught by the cross-pieces on the carrier-belt, which push it forward, and thus break any bridge of the corn that may be formed in the lower end of the carrier-spout.

The adjustability of the arms E F, and the feature of having the pivot of the arm F changeable, allow the pulleys to be situated so as to transmit power from the vertical driving-shaft C to the carrier-belt, when the carrier-spout is turned in any direction, without changing the length of the belt.

The advantage of having the carrier-spout adjustable vertically is to allow wagons to be driven under its upper end, and then lower the carrier-spout so as to deliver the cobs in such wagons.

Having thus described my invention and some of its advantages, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the vertical driving-shaft C, and horizontal shaft h^1 of the carrying-spout with the adjustable arms E F and belt K, substantially as described and shown.
2. The combination of the carrier-spout H, belt I, and cross-pieces l' of the pivoted leg m' , when the several parts operate substantially as described and shown.
3. The combination, with the driving-shaft C, carrier-spout H, and belt K, of the arm E, pivoted at its inner end, plates e e^1 , nut and bolt e^2 , changeably-pivoted arm F, brace f^2 , and sheaves G G', substantially as described and shown.

This specification signed and witnessed this 30th day of September, 1875.

HENRY H. EBY.

Witnesses:

JAMES CLARKSON,
THOS. FORRESTALL.