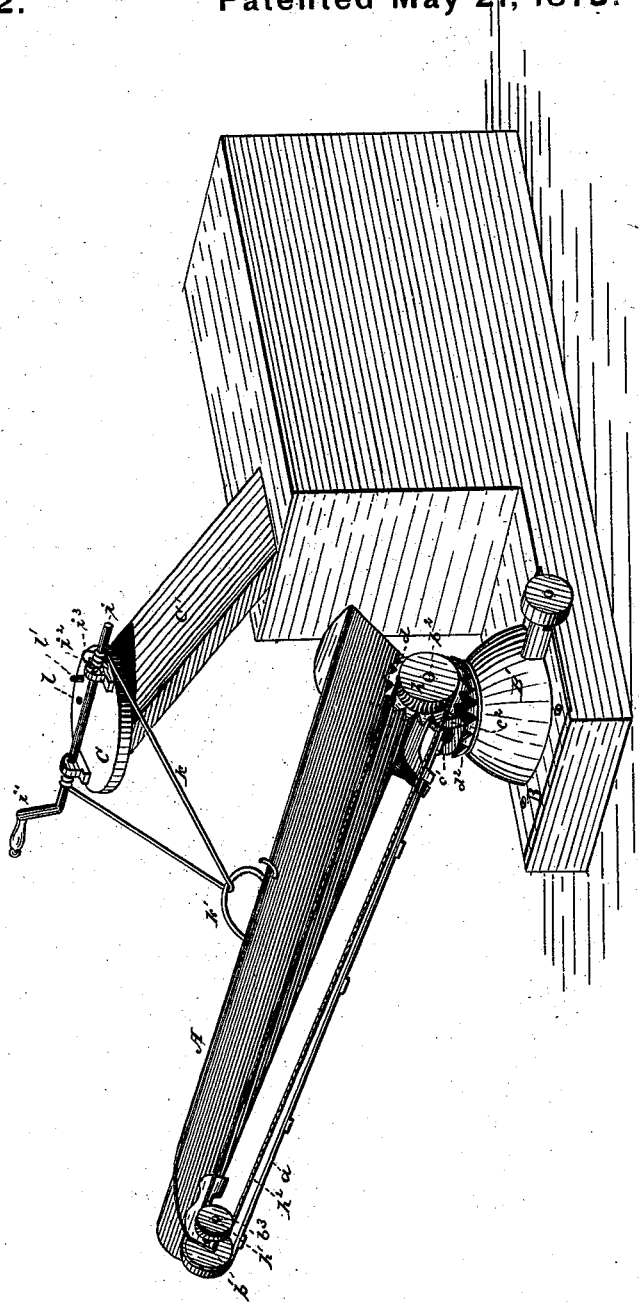


H. H. EBY.
Cob-Elevators for Corn Shellers.

No. 204,012.

Patented May 21, 1878.

Fig. 1.



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Fig. 3.

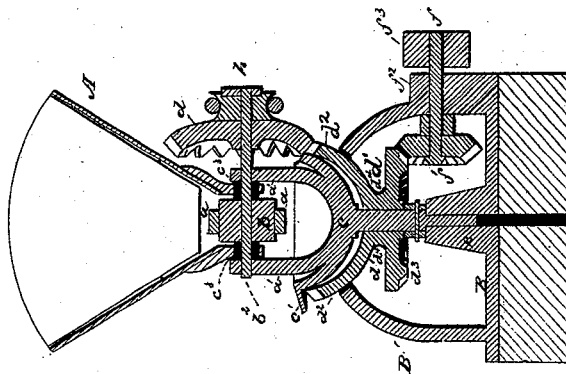


Fig. 2.

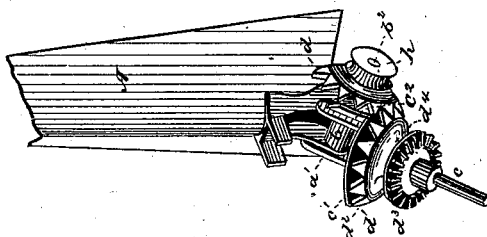
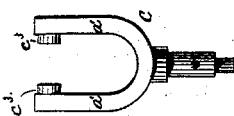


Fig. 4.



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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. **204,012**, dated May 21, 1878; application filed December 1, 1877.

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 useful Improvement in Cob-Carriers 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 I have in view is to produce a machine adapted for carrying cobs from a shelling-machine, for conveying grain, stacking straw, and for feeding material to various classes of machines, which will have means for operating the carrying-belt, and also devices for raising the spout of the same, of such peculiar construction that the said operating mechanism will be more efficient and better protected than those heretofore employed, and the other devices more convenient to work than the ones already in use for the same purpose; and my invention therein consists in the means for supporting the lower end of the elevating or carrying spout, in the particular gearing for operating the carrying-belt, so that the machine can be moved from side to side and raised or lowered without interfering with the operation of such carrying-belt, and in the housings or shieldings for protecting this mechanism; and, further, in the peculiar devices for raising the carrying-spout to any desired elevation, and at the same time permitting it to be shifted from side to side, all as fully hereinafter explained.

In the drawings, Figure 1 is a perspective view of the entire machine, showing it attached to a power corn-sheller. Fig. 2 is a view of the lower part of the carrying-spout and the mechanism for operating the carrying-belt; Fig. 3, a cross-section through the shaft at the lower end of the carrying-spout and the operating mechanism, and Fig. 4 a separate view of the supporting-standard.

Like letters denote corresponding parts.

A represents the carrying-spout, of ordinary construction, having the carrying-belt *a* traveling in its bottom over sheaves or pulleys *b* *b*¹. The shafts *b*² *b*³ of these sheaves or pulleys are journaled in suitable castings secured to the angle of the spout. The shaft *b*² of the lower pulley *b* is extended on both sides

through the casting, and has journaled on it the forked arms *a*¹ of a supporting-standard, *c*. The carrying-belt passes around the pulley *b*, between the forked arms *a*¹, and on the standard *c*, below these forked arms, is cast or secured a concave shield, *c*¹, having an arm, *c*², to protect the belt from catching in the gearing. To the inside of the forked arms *a*¹ are cast hubs *c*³, on which the hangers from the spout A rest. The shaft *b*² passes through these hubs and turns therein. Two arms for guiding the belt are hung from the casting a short distance from the sheave *b*. One end of the shaft *b*² is extended beyond the arm on that side of the standard *c*, and has mounted thereon a bevel-gear wheel, *d*. On the standard *c*, directly below the shield *c*¹, is sleeved a double wheel, *d*¹, having a bevel-gear, *d*², on its upper periphery, meshing with the bevel-gear *d*, and a bevel-gear, *d*³, on its lower periphery. This double wheel *d*¹ is grooved to form a sheave, *d*⁴, between the gears *d*² *d*³, so that it may be used with a cord or belt when the power is applied horizontally, the lower gear *d*³ being used when the power is applied vertically, as shown.

B is a metal base-plate, which is secured in the desired position, or at any point where the lower end of the carrying-spout is required to be situated, and upon the base-plate is cast a spherical case, B'. Rising from the base-plate centrally within the case B' is a short standard, *e*, having a hole bored in it. The lower end of the standard *c* is stepped in this hole, and is adapted to turn freely therein. The spherical case B' has a circular opening in its top, just large enough to allow the lower part of the double wheel *d*¹ to pass through, while the bevel-gear *d*² of this wheel turns close to the edge of this opening, so as to exclude all dust from the interior of the case.

It will be seen that the standard and the gearing supported by it can be raised from the case B' without the necessity of removing bolts or other fastenings, which is a great advantage in this class of machines, where the inclosing-case is attached directly to the frame of the sheller, and allows the elevator to be detached from the sheller with little trouble or delay.

A horizontal shaft, *f*, passes through one

side of the case B', and has on its end within such case a bevel-gear, f^1 , meshing with the gear d^3 on the lower periphery of the double wheel d^1 . This shaft f is journaled in a sleeve, f^2 , supported on the base outside the case B', which sleeve entirely incloses and covers the shaft. On the outer end of this shaft is keyed a pulley, f^3 , to which power is applied from the machine by any suitable means.

Thus it will be seen that when the pulley f^3 is operated the carrying-belt will be moved through the gearing $f^1 d^3 d^2 d$, and that the spout can be turned from side to side (the standard c turning in the standard e) or raised or lowered (rocking on the hub c^3 of the forked arms of the standard c) without interfering with the continuous operation of such carrying-belt.

If it is desired to apply the power to the outer as well as the inner end of the carrying-belt, grooved pulleys $h h^1$ are placed, one outside of the bevel-gear d and the other on the extended end of the shaft b^3 , which supports the sheave b^1 . The pulleys would be connected by a belt or cord, h^2 . With this last construction, if it is desired to run the carrying-belt exclusively from the outer end, the gear d and pulley h can be arranged to turn independently of the carrying-belt sheave b on the same shaft.

In case the power is applied from a horizontal wheel or pulley, the case B' may be done away with, and a cord or belt run directly from such horizontal wheel to the sheave d^1 .

For raising and lowering the carrying-spout, I have provided the following means: C is a revolving block, which is mounted on any suitable standard, C', (preferably inclined forward,) and adapted to revolve freely thereon. This may be accomplished by providing the block with a stud on its under side set in a socket in the top of the standard. On the revolving block is mounted, in proper journals, a horizontal shaft or windlass, i , having a crank-handle, i^1 , on one end. This shaft is also provided with a ratchet, i^2 , engaging with a pawl, i^3 , on the block. A rope, k , is secured at both ends to the shaft i , and centrally to a bail, k' , attached to the sides of the spout A. By turning the shaft i the rope will be wound upon the same at both ends and the spout raised. It will be held in this position by the pawl and ratchet. The spout can be lowered by disengaging the pawl and turning the shaft in the opposite direction.

When it is desired to change the position of

the spout laterally, the revolving block is turned and the spout swings with it.

To hold the block and spout in the various lateral positions, the block is provided with a series of holes, l , and a pin, l' , is adapted to be passed through any one of these holes into a hole in the standard beneath.

The advantages of my peculiar mechanism for operating the carrying-belt lie in its simplicity, durability, and compactness, the completeness with which it is protected from dust and dirt, and its efficiency in operation.

The advantages of the means for raising, lowering, and swinging the spout are found in the convenience with which they can be operated, their position, which is out of the way of operators or wagons working around the outer end of the spout, and also their simplicity and durability.

Having thus fully described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

1. The combination, with an elevating-spout adapted to swing from its lower end, of the horizontal wheel d^1 , having cog-gears on its upper and lower peripheries, and an intermediate sheave to receive a cord or belt, substantially as and for the purpose set forth.

2. In an elevating-spout adapted to swing from its lower end, the case B' for inclosing the gearing, cast in one piece, and provided with an open top by which the gearing can be dropped into or raised from the case without removing bolts or other fastenings, substantially as described.

3. In an elevating-spout adapted to turn from its lower end, the forked standard c , supporting the lower end of the spout, and carrying the horizontal gearing, in combination with the short standard e in the covering-case in which the said standard c is stepped, substantially as described.

4. The standard c , constructed with the shield c^1 , and having arms c^2 , substantially as described.

5. The combination, with the spout A, of the revolving block C, shaft or windlass i journaled thereon, rope k , and pin l' , constructed and arranged substantially as described and shown.

This specification signed and witnessed this 6th day of November, 1877.

HENRY H. EBY.

Witnesses:

EDWARD AUSTIN,
JAKOB G. REUL.