

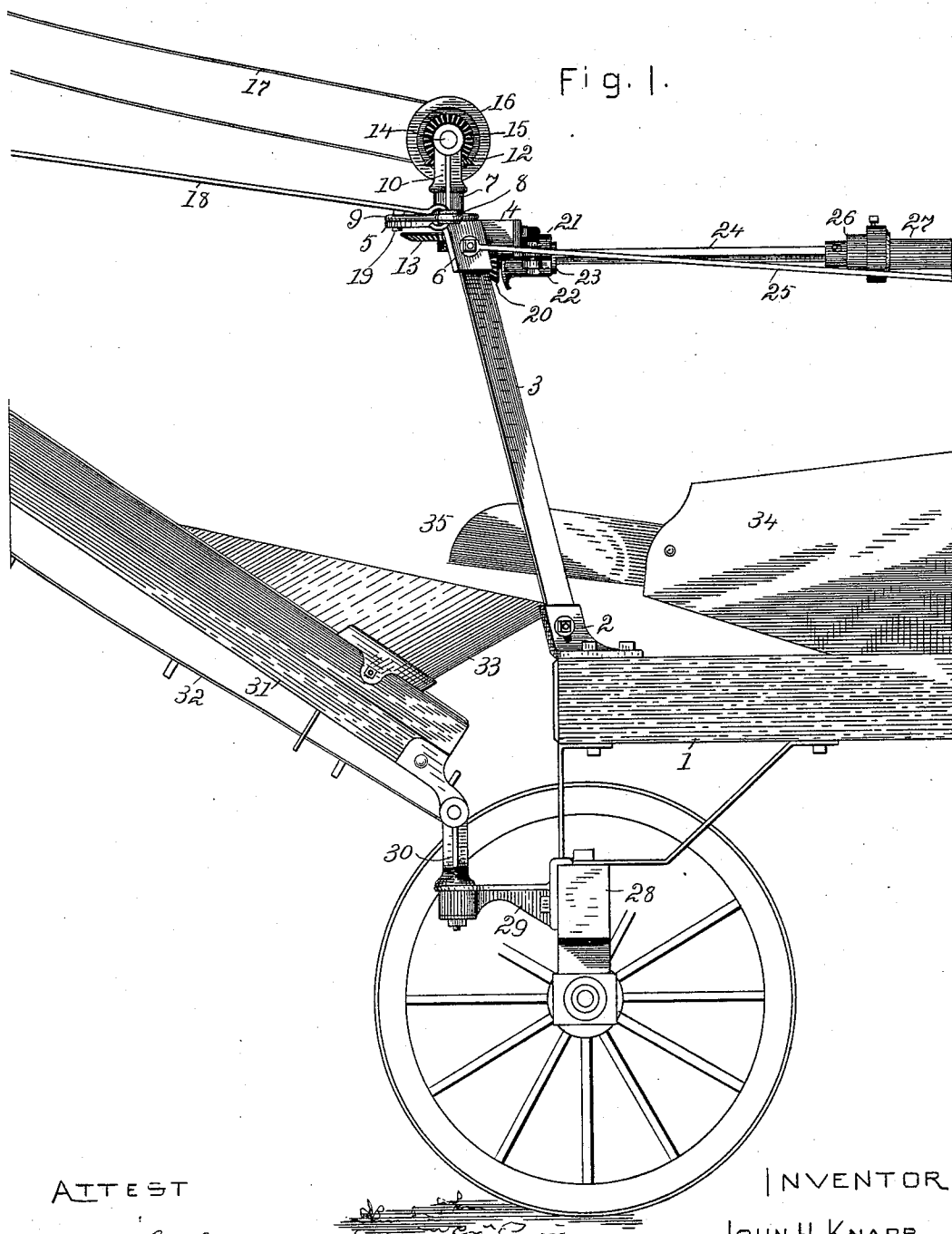
(No Model.)

3 Sheets—Sheet 1.

J. H. KNAPP.
COB STACKER FOR CORN SHELLERS.

No. 583,649.

Patented June 1, 1897.



ATTEST

Nora Graham
Lydia Graham

INVENTOR

JOHN H. KNAPP.

by *L. P. Graham*
his attorney

(No Model.)

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Fig. 2.

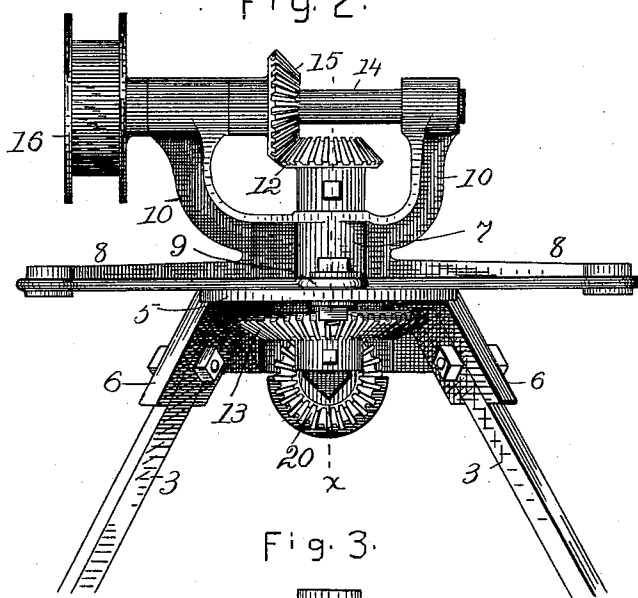


Fig. 3.

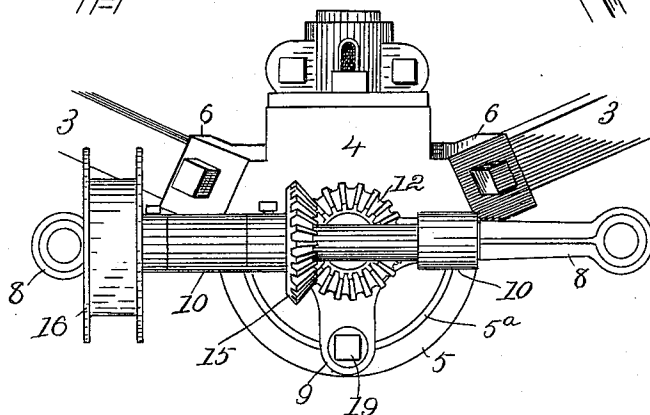
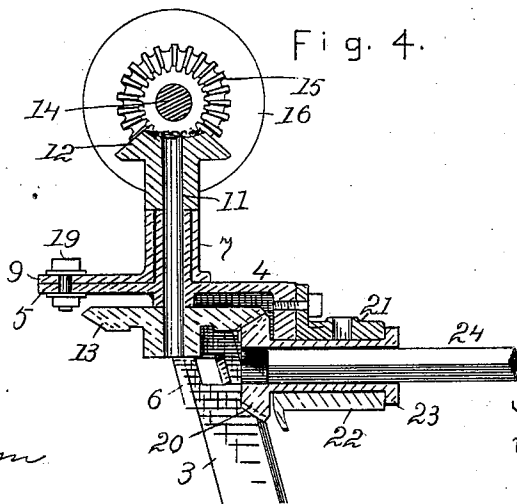


Fig. 4.



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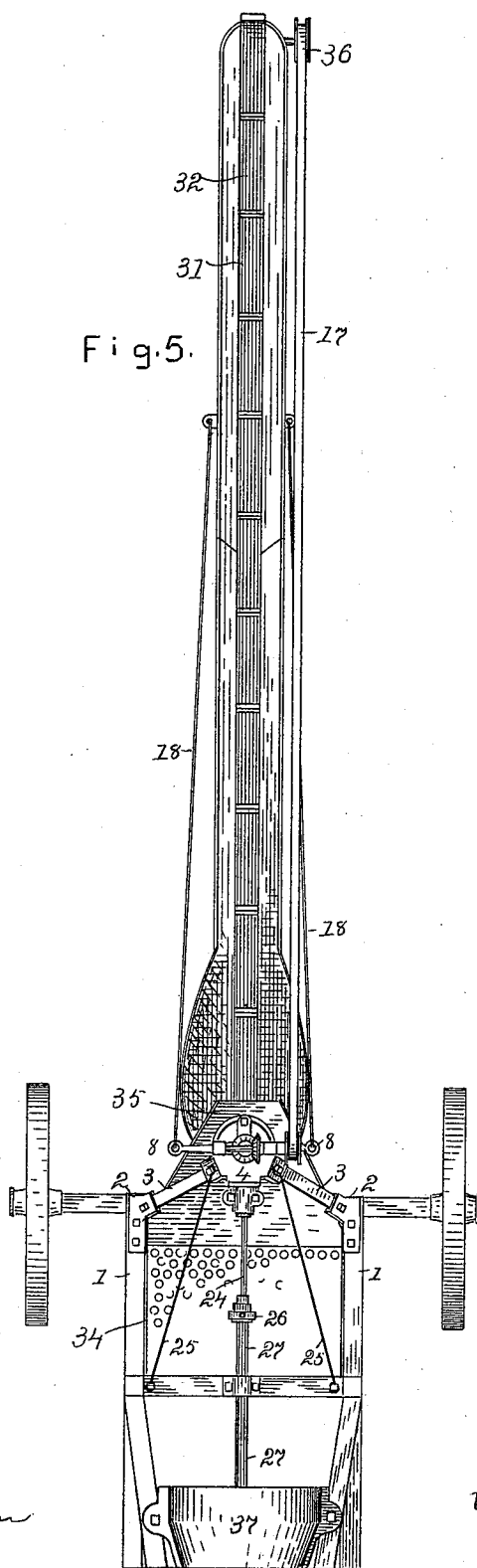
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UNITED STATES PATENT OFFICE.

JOHN H. KNAPP, OF DECATUR, ILLINOIS, ASSIGNOR TO THE UNION IRON WORKS, INCORPORATED, OF SAME PLACE.

COB-STACKER FOR CORN-SHELLERS.

SPECIFICATION forming part of Letters Patent No. 583,649, dated June 1, 1897.

Application filed April 12, 1897. Serial No. 631,789. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. KNAPP, of Decatur, in the county of Macon and State of Illinois, have invented certain new and useful Improvements in Cob-Stackers for Corn-Shellers, of which the following is a specification.

This invention is intended to furnish simplified and improved means for transmitting motion from a sheller to the cob-stacker drag-belt, while providing for swinging motion in the stacker, when such motion is desired, and for holding the stacker in any desired position with relation to the sheller. It is exemplified in the structure hereinafter described, and it is defined in the appended claims.

In its broadest sense the invention is embodied in a horizontal sheller, a stacker-frame swung from the sheller-frame in the rear of the cylinder and below the shaft thereof, stacker-driving gearing located at or near the conjunction of right lines produced axially through the vertical pivot of the stacker and the shaft of the cylinder, respectively, and a drive-shaft for the gearing forming an approximate continuation of the cylinder-shaft.

In a more restricted sense the invention also resides in the details of construction and combinations of parts hereinafter set forth and claimed, whereby the broad idea is perfected in various particulars.

In the drawings forming part of this specification, Figure 1 is a side elevation of the rear end of a sheller-frame and the front end of a stacker, showing the stacker-gearing in operative relation thereto. Fig. 2 is a rear elevation of the stacker-gearing enlarged. Fig. 3 is a plan of the stacker-gearing. Fig. 4 is a vertical section on line X in Fig. 2. Fig. 5 is a plan of a stacker, the gearing therefor, and so much of a sheller as is needed to explain the relation of the gearing to the sheller.

In constructing a stacker and connecting it with a sheller in accordance with my invention a pair of brackets 2 are fastened one to the rear end of each of the lower sills 1 of the sheller-frame. Bars 3 are connected one with each of the brackets 2 and are extended upward, backward, and inward to the vicinity of the horizontal plane in which the

shaft of the cylinder of the sheller lies. A horizontal plate 4 is made with downward-extending lugs 6, and its rear portion is arc-formed, as shown at 5, and arc-slotted, as shown at 5^a in Fig. 3. The plate 4 is mounted horizontally on the upper ends of bars 3 by means of bolts that extend through the bars and through the lugs 6 of the plate. A swingable frame consisting of collar 7, arms 8, extension 9, and brackets 10, and preferably integral, is journaled to swing horizontally on plate 4. A shaft 11 (seen only in Fig. 4) extends vertically through the plate and through the collar 7 of the swingable frame, and it has gear-wheels 12 and 13 on its upper and lower ends, respectively. A horizontal shaft 14 is journaled in brackets 10 of the swingable frame. It has between its bearings a gear-wheel 15, which meshes with wheel 12, and one of its ends projects beyond its bearing and is provided with a pulley 16. The extension 9 of the swingable frame is provided with a bolt 19, which extends through slot 5^a of the plate 4 and through a hole in the extension 9, and such bolt provides for holding the frame in different positions with relation to the fixed plate 4. The upper half of a boxing is secured to the front end of plate 4, as shown at 21, and the under half 22 is secured to the upper half. A gear-wheel 20 has an elongated hub which journals in the bearing formed by parts 21 and 22, and it meshes with wheel 13. A collar 23, formed on the end of the hub of wheel 20, aids in holding such wheel from longitudinal motion.

The wheel 20 and its hub have a longitudinal aperture prismatic in cross-sectional conformation, into which the rear end of a prismatic drive-shaft 24 extends. The shaft 24 is held at its forward end in a collar 26, which is fastened onto the rear end of the sheller-shaft 27, and its fittings at both ends are sufficiently loose to give it a slight tumbling-shaft action and thereby obviate the necessity of accurate alinement between the wheel 20 and the sheller-shaft.

Brace-rods 25 extend from plate 4 back to the sheller-frame, as shown in Fig. 5, and they aid in holding the gearing in proper position.

A bracket 29 is fastened to the bolster 28

of the sheller-truck, and it projects rearward therefrom to an extent sufficient to bring its rear end under the vertical shaft 11 of the stacker-driving gearing. A yoke 30 pivots
 5 in a vertical bore in the rear end of bracket 29, and it carries the front end of the stacker-trough 31. The rear swinging end of the stacker-trough is sustained in an elevated position by means of brace-bars 18, which con-
 10 nect one with each side of the trough and with an end of arm 8. The drag-belt 32 of the stacker-trough runs around a live-pulley in the rear elevated end of the trough and around an idler in the forward end. The
 15 shaft of the live-pulley is supplied with a drive-pulley 36, (seen only in Fig. 5,) and a belt 17 conveys motion from pulley 16 of the gearing to pulley 36 of the stacker.

The hopper 33 of the stacker-trough rests
 20 under the discharge-spout 35 of the screen-frame 34 of the sheller and receives the cobs as they pass from the sheller.

In Fig. 5 the casing of the cylinder of the thrasher, of which cylinder 27 is the shaft, is
 25 shown in part at 37.

In operation the shaft 24 turns with the shaft 27 and imparts motion to wheel 20. Wheel 20 turns wheels 13 and 12, which transmit motion to wheel 15 and pulley 16, and the transmission is completed by belt 17 and pulley 36. The arms 8 of the swingable frame are connected with the stacker-trough in a manner to compel the frame to swing with the trough and thereby keep the belt-pulley
 30 16 in proper relation to the pulley 36 of the trough, and, on the other hand, the clamping of the swingable frame onto the fixed plate 4 by means of bolt 19 tends to hold the stacker against swinging motion. The shaft 11 is con-
 35 centric with the pivot of the swingable frame, and so the swinging motion of the frame does not affect the action of the gearing.

The advantages of the invention lie in its simplicity, directness of application of force,
 45 and desirability of location of the gearing. Motion is transmitted from the sheller in a very simple and direct manner, and the gearing is well up out of the way of everything that might tend to interfere with its opera-
 50 tion.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a horizontal shell-
 55 er, of a stacker-trough pivotally connected with the sheller-frame in the rear of the cylinder and below the shaft thereof, stacker-driving gearing located at or near the conjunc-
 60 tion of right lines produced axially through the pivot of the stacker and the shaft of the cylinder respectively, and a drive-shaft for the gearing forming an approximate contin-
 65 uation of the cylinder-shaft, substantially as set forth.

2. The combination, with a horizontal shell-
 65 er, of a stacker-trough pivotally connected

with the sheller-frame in the rear of the cyl-
 70 nder and below the shaft thereof, stacker-driving gearing in approximate axial aline-
 75 ment with the pivot of the stacker and the shaft of the cylinder, a collar fastened onto the end of the shaft of the cylinder and pro-
 80 jecting beyond the same, and a drive-shaft for the stacker-gearing having one end in-
 85 serted into the collar and the other end con-
 90 nected with such gearing, substantially as set forth.

3. The combination, with a horizontal shell-
 90 er, of a stacker-trough pivotally connected with the sheller-frame in the rear of the cyl-
 95 nder and below the shaft thereof, bars rising from the rear of the sheller-frame, a fixed plate supported by said bars in approximate axial alinement with the pivot of the stacker and the shaft of the cylinder, stacker-driving
 100 gearing mounted on the plate, and a drive-shaft for the gearing forming an approximate continuation of the cylinder-shaft, substan-
 105 tially as set forth.

4. The combination, with a horizontal shell-
 90 er, of a stacker-trough pivotally connected with the sheller-frame in the rear of the cyl-
 95 nder and below the shaft thereof, bars rising from the rear of the sheller-frame, a horizontal plate supported fixedly on the upper ends of the bars in approximate axial alinement
 100 with the pivot of the stacker and the shaft of the cylinder, a swingable frame mounted on the plate, arms extending rigidly from oppo-
 105 site sides of the swingable frame, connections between the stacker-trough and the arms whereby the frame is made to swing with the
 110 trough, stacker-driving gearing mounted partly in the fixed plate and partly in the swingable frame, and a drive-shaft for the
 115 gearing forming an approximate continuation of the cylinder-shaft, substantially as set forth.

5. The combination, with a horizontal shell-
 110 er, of a stacker-trough pivotally connected with the sheller-frame in the rear of the cyl-
 115 nder and below the shaft thereof, bars rising from the rear of the sheller-frame, a horizontal plate supported fixedly on the upper ends of the bars in approximate axial alinement
 120 with the pivot of the stacker and the shaft of the cylinder, a swingable frame mounted on the fixed plate and having arms extending from opposite sides thereof, connections be-
 125 tween the stacker-trough and the arms whereby the frame is made to swing with the trough, a clamp for securing the swingable frame to the fixed plate, a gear-wheel journaled under the plate, a shaft forming an approximate continuation of the cylinder-shaft and connecting the gear-wheel under the plate with
 130 said cylinder-shaft, a shaft extending vertically through the plate and the frame, concentric with the pivot of the frame, and having a gear-wheel on each of its ends, the lower of which meshes with the gear-wheel mounted

on the drive-shaft, a transverse shaft in the
frame having a gear-wheel in mesh with the
upper wheel of the vertical shaft, and also
having a belt-pulley, and a belt connecting
5 the belt-pulley of the swinging frame with the
drive-pulley of the stacker-drag, substantially
as set forth.

In testimony whereof I sign my name in the
presence of two subscribing witnesses.

JOHN H. KNAPP.

Attest:

C. M. LYTTLE,

A. R. MONTGOMERY.