

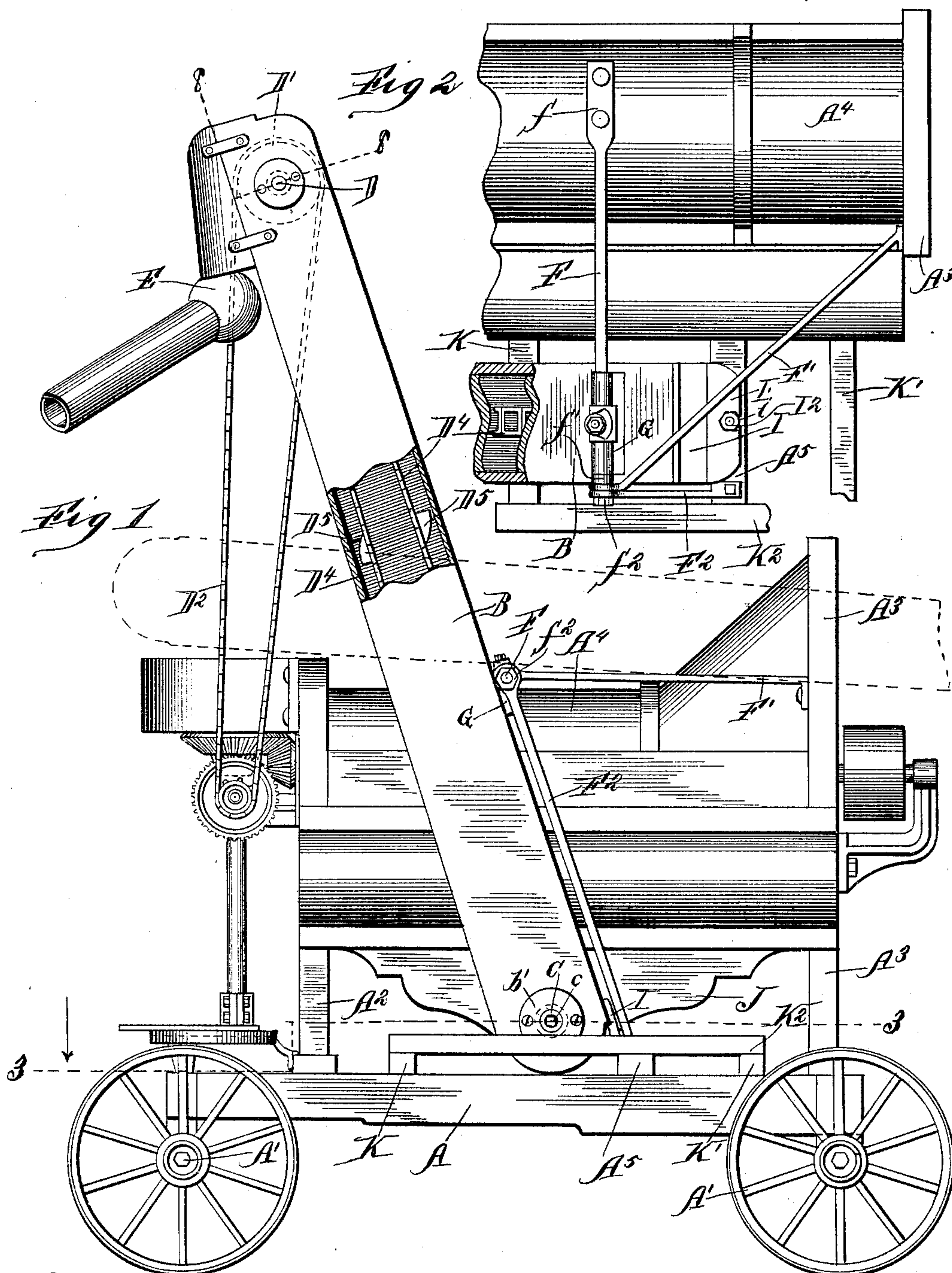
(No Model.)

2 Sheets—Sheet 1.

J. H. GILMAN.
CORN SHELLER ATTACHMENT.

No. 592,543.

Patented Oct. 26, 1897.



Witnesses
W. C. Corlies
C. A. Crawford

Inventor
John H. Gilman
by Coburn & Strong
Attys

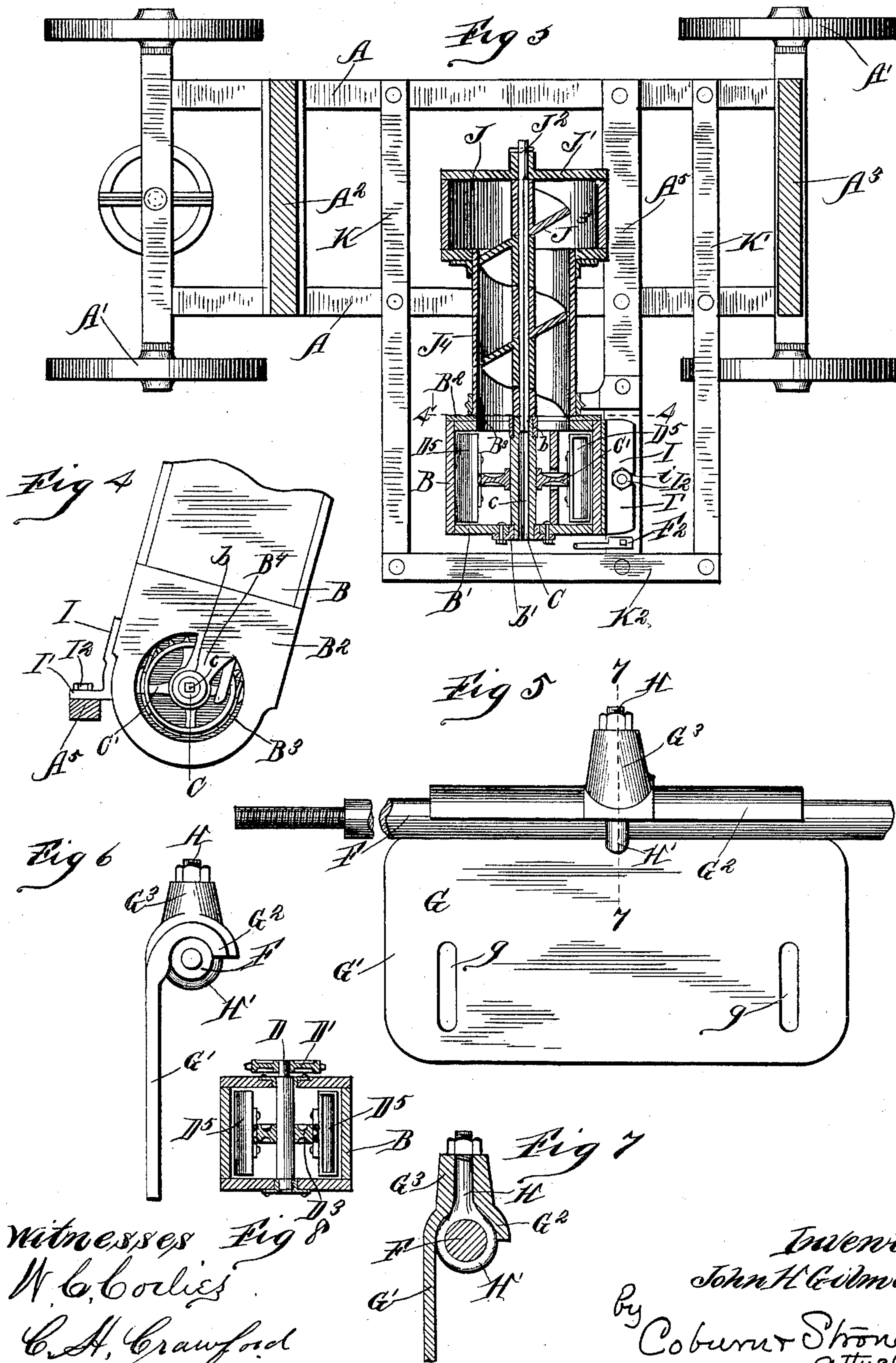
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UNITED STATES PATENT OFFICE.

JOHN H. GILMAN, OF OTTAWA, ILLINOIS, ASSIGNOR TO THE KING & HAMILTON COMPANY, OF SAME PLACE.

CORN-SHELLER ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 592,543, dated October 26, 1897.

Application filed April 16, 1897. Serial No. 632,452. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. GILMAN, a citizen of the United States, residing at Ottawa, in the county of La Salle and State of Illinois, have invented a certain new and useful Improvement in Corn-Sheller Attachments, which is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

10 Figure 1 is a general side elevation of a corn-sheller constructed according to my invention. Fig. 2 is a plan view of a portion thereof with parts broken away. Fig. 3 is a horizontal section on the line 3 3 of Fig. 1. Fig. 15 4 is a view in elevation of the lower end of the elevator looked at from the inner side. Fig. 5 is a detail view of the upper mounting of the elevator. Fig. 6 is an end elevation of the parts shown in Fig. 5. Fig. 7 is a vertical 20 cross-section on the line 7 7 of Fig. 5. Fig. 8 is a horizontal section on the line 8 8 of Fig. 1.

My invention relates to corn-shellers, and particularly to that mechanism adapted to 25 elevate the shelled corn from the lower portion of the machine and transfer it to whatever receptacles may be provided.

My invention has for its principal object so to mount the elevator as to enable it to be 30 swung from its operative position into one more suitable for the machine when the same is to be conveyed from place to place; and it consists in means adapted to this end, together with other devices and features of construction connected with the elevator.

35 Referring to the drawings by letter, A A designate the main sills of the framework of a corn-sheller carried by the axles and wheels A'.

40 A² designates the front and A³ the rear main frame-upright, adapted to support the body of the machine, of which A⁴ represents the upper casing of the shelling-cylinder.

Between the two frame-uprights A² and A³ and somewhat nearer the latter there is secured to the two sills A a transverse beam 45 A⁵, which extends outward upon one side of the sills and machine, as particularly shown in Fig. 3. Its purpose will be later described.

50 The elevator B comprises a casing B', which is inclosed at its lower end except upon that side adjacent to the body of the machine.

Here the said casing consists of a plate casting B², provided with a circular aperture B³. A bracket B⁴, in which there is formed a bearing b, extends from the said plate outward 55 to the center of the said aperture. The outer side of the casing B' is provided with a bearing b' opposite the bearing b. In the two bearings b and b' is mounted a short hollow shaft C, the hollow interior of which c is poly- 60 gonal in cross-section, preferably square. The shaft C carries a sprocket-wheel C'.

In the upper end of the elevator-casing is mounted a second short shaft D, which carries an outer sprocket-wheel D', adapted to be 65 driven by the sprocket-chain D² from one of the sources of power of the machine. Within the casing of the elevator the shaft D carries a second sprocket-wheel D³. The two 70 sprocket-wheels C' and D³, with the sprocket-chain D⁴ and the buckets D⁵, carried thereby, constitute the elevating mechanism of the elevator B. An exit-spout E leads from the 75 upper end of the elevator and is adapted to convey the shelled corn, when elevated, to the wagons or other receptacles provided for receiving it.

For the support of the elevator there is secured to the upper portion of the body of the machine a horizontal transverse bar F, bolt- 80 ed to the cylinder-casing, as at f, and extending outward on the side toward the elevator. The outer end of the said bar is screw-threaded and provided with a nut f', screwed a certain distance inward thereon. A second 85 member of the support consists of a tie-rod F', secured at one end to the frame-upright A³ and at its other end provided with an eye which is slipped onto the end of the bar F outside of the nut f'. The third member of 90 the support consists of a strut F², the lower end of which is bolted to the transverse beam A⁵, hereinabove described, while the upper end is similarly provided with an eye adapted to be slipped on the end of the bar F. A 95 nut f² secures all of the three members of the support together, as is particularly shown in Fig. 2.

To the elevator-casing about midway of its length is secured a casting G, comprising 100 a plate G', adapted to be attached to the said casing by bolts through the slots g and a

curved-over flange G^2 along the upper edge of the said plate. The flange G^2 carries a stud G^3 , which is perforated to receive an eyebolt H. The eye H' , which the said eyebolt incloses, is slipped onto the supporting-bar F, while the shank of the said eyebolt extends upward through the stud G^3 and is securely bolted therein. By this construction it will be seen that the elevator is pivoted in a vertical plane upon the support formed by the bar F, tie-rod F', and strut F².

To the lower end of the elevator-casing is secured a bracket-plate I, provided with an outwardly-projecting flange I', which is slotted, as at i , and thereby bolted, when the elevator is in operative position, to the transverse beam A⁵.

Beneath the exit of the corn-sheller riddle or riddles is disposed a hopper J, adapted to receive the shelled corn. In the casing J' of the said hopper is formed a bearing for one end of a shaft J², which is provided with a helical flange J³. The said hopper is provided with a circular outlet upon that side adjacent to the elevator. The cylindrical barrel J⁴ connects the said outlet with the circular aperture B³ in the adjacent side of the lower end of the elevator, the shaft J² and flange J³ forming in combination with the said barrel a screw conveyer. The remaining end of the shaft J² is made polygonal in cross-section to fit within the hollow interior c of the short shaft C of the elevator, although, of course, any other form of detachably keying the one shaft to the other may be employed. Thereby the conveyer-shaft J² is adapted to be driven from the elevating mechanism of the elevator. Finally I secure to the sills A of the machine two further transverse beams K and K', which extend outwardly upon either side of the elevator and in turn support a third beam K², whereby the three beams form a rectangular inclosure surrounding the lower end of the elevator.

The mode of operation of a corn-sheller constructed as hereinabove described will doubtless be apparent from the said foregoing description and from the drawings.

When the corn-sheller is to be set in operation, the elevator will be in its working position, as shown in full lines in Fig. 1 and as already described. The sprocket-chain D² drives the elevating mechanism of the elevator, which in turn drives the screw conveyer in a manner sufficiently obvious, thereby conveying the shelled corn from the hopper to the elevator and raising it therein to cause its exit through the chute E.

When the machine is to be put out of operation or transported from one place to another, the sprocket-chain D² is first disconnected. The bolt I², which secures the lower end of the elevator to the beam A⁵, is next loosened, and the entire elevator may now be swung upon its pivotal mounting on the bar F, the upper end moving rearwardly and

downwardly until the whole occupies the position shown in dotted lines in Fig. 1. The elevator will normally retain this position, resting upon the bar F and tie-rod F', and may further be secured in such position by any appropriate means. The mounting of the elevator is with a sufficient looseness in the parts to permit of the shaft C, with the lower end of the elevator, moving slightly outward sufficient to disengage it from the shaft J² of the conveyer before the elevator is tilted backward. The elevator may be thus changed from its operative to its inoperative position and back again without disconnecting the same from the machine and by a very slight degree of manipulation. The elevating mechanism serves to transmit power from the machine to the screw conveyer and is at the same time adapted to be readily disconnected from the one as well as from the other. Finally the framework formed by the beams K, K', and K² constitutes a protection to the lower end of the elevator sufficient to prevent contact between the same and the wheels of wagons which may be backed up to receive the shelled corn, and thus obviate a frequent breakage or damage of the parts of the elevator.

I do not consider my invention limited to the specific devices hereinabove shown and described, since many changes may be made therein, while the principles of my invention are at the same time preserved.

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

1. In a corn-sheller attachment, the combination of the elevator-frame, the horizontally-disposed shaft, the carrier mounted in said elevator-frame and operated by said shaft, with the horizontally-disposed conveyer, an operating-shaft for said conveyer, which shaft is a continuation of the carrier-shaft, and detachable connections for said shafts, substantially as described.

2. In a corn-sheller attachment, a shelled-corn elevator pivotally mounted upon the machine, adapted to be swung in a vertical plane into and out of operative position; a horizontally-disposed conveyer adapted to convey the shelled corn into the lower end of the elevator when the same is in operative position; and means for driving the said elevator and the said conveyer comprising the shafts J² and C, which can be connected and disconnected as desired.

3. In a corn-sheller attachment, a shelled-corn elevator, pivotally mounted upon the machine, adapted to be swung into and out of operative position; a conveyer adapted to convey corn into the lower end of the elevator when the same is in operative position; detachable connections between the elevating mechanism of the elevator and the said conveyer, adapted to drive the latter from the former; and means for driving the said elevating mechanism.

4. In a corn-sheller attachment, a shelled-

corn elevator, pivotally mounted upon the machine and adapted to be swung in a vertical plane into and out of operative position; a conveyer adapted to convey corn into the lower end of the elevator when the same is in operative position; detachable connections between the lower shaft of the elevating mechanism and the conveyer-shaft; and means for transmitting power from the machine to the upper shaft of the said elevating mechanism.

5. In a corn-sheller attachment, the elevator B; the horizontal bar F; the tie-rod F'; the strut F²; a connection between the middle of the elevator and the bar F permitting the elevator to be swung upon the latter as a pivot; and means for securing the elevator in its upright operative position.

6. In a corn-sheller attachment, the elevator B; the horizontal bar F; the tie-rod F'; the strut F²; the plate G' secured to the elevator midway its length and adapted to pivot upon the bar F; an eyebolt H securing the said plate to the said bar; and means for holding the elevator in its normal operative position.

7. In a corn-sheller attachment, the elevator B provided at its inner lower end with an aperture B³; the upper shaft of the elevating mechanism D; means for driving the same from the machine; the lower shaft C; suitable elevating mechanism within the elevator actuated from the said shafts; a hopper J; a barrel J⁴, connecting the said hopper with the aperture B³ of the elevator; and a screw conveyer, the shaft of which is detachably keyed to the lower elevator-shaft C.

8. In a corn-sheller attachment, a shelled-

corn elevator B pivotally mounted upon the machine, and adapted to be swung into and out of operative position, provided at its inner lower end with an aperture B³; the upper shaft of the elevating mechanism D; means for driving the same from the machine; the lower shaft C; suitable elevating mechanism within the elevator actuated from the said shafts; a hopper J; a barrel J⁴ connecting the said hopper with the aperture B³ of the elevator; and a screw conveyer, the shaft of which is detachably keyed to the lower elevator-shaft C.

9. In a corn-sheller attachment, a shelled-corn elevator B provided at its inner and lower end with an aperture B³; the upper shaft D of the elevating mechanism provided with the driving sprocket-wheel D', and the elevating sprocket-wheel D³; the sprocket-chain D² connecting the sprocket-wheel D' with the driving mechanism of the machine; the lower shaft C of the elevating mechanism provided with a recess c, and carrying a sprocket-wheel C'; an elevator-chain D⁴ and buckets D⁵ carried by the sprocket-wheels D³ and C'; a hopper J; the barrel J⁴ connecting the said hopper J with the aperture B³ of the elevator; the conveyer-shaft J², the end of which is adapted to fit in the recess of the shaft C, provided with the helical flange J³; the bar F suitably supported; and a connection between the said bar and the elevator adapted to permit the latter to swing in a vertical plane.

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Witnesses:

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