

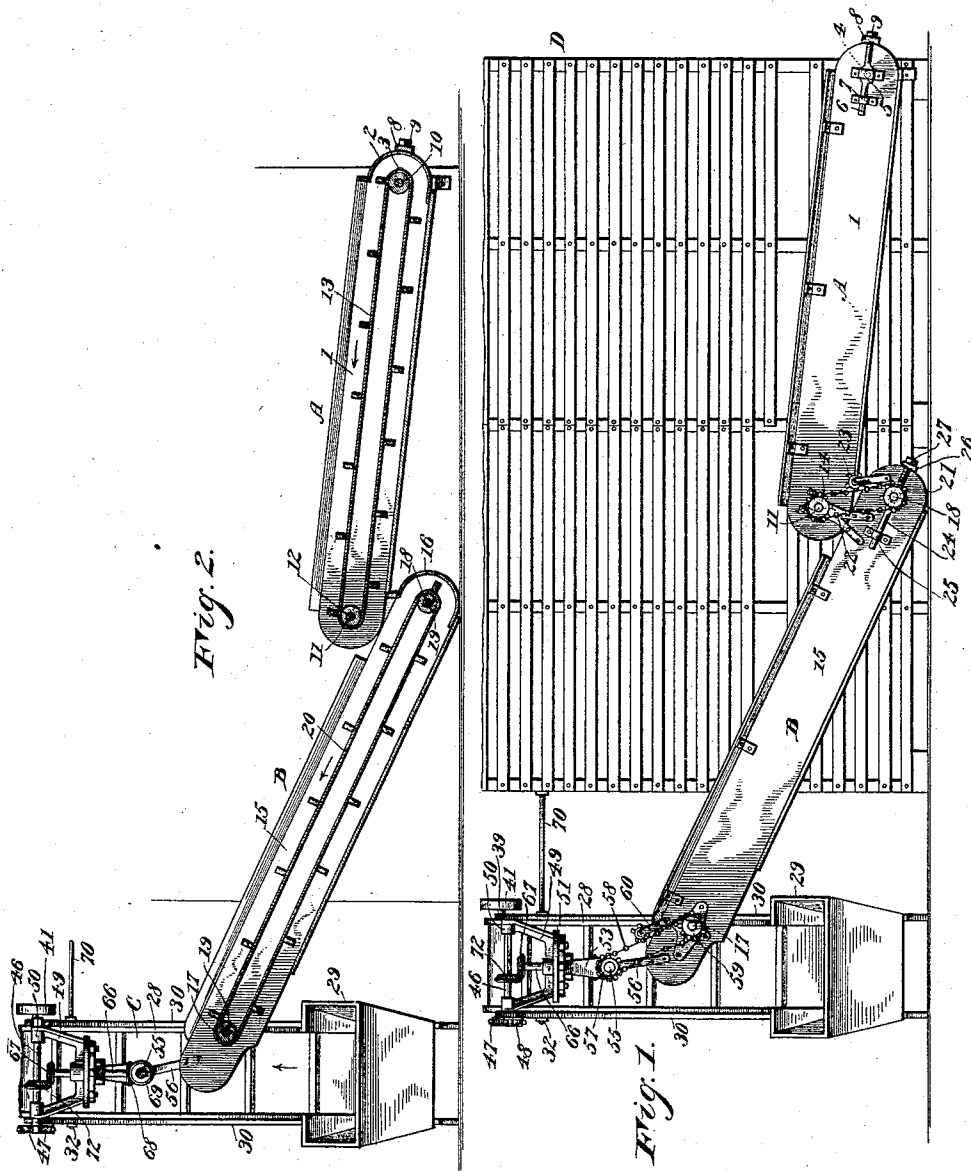
(No Model.)

3 Sheets—Sheet 1.

J. & G. G. HEALEA.
CORN CONVEYER.

No. 486,466.

Patented Nov. 22, 1892.



Witnesses;

Myself
J. B. Tiggers

By their Attorneys,

C. A. Snow & Co.

Inventors,
John Healea and
Geo. G. Healea,

(No Model.)

3 Sheets—Sheet 2.

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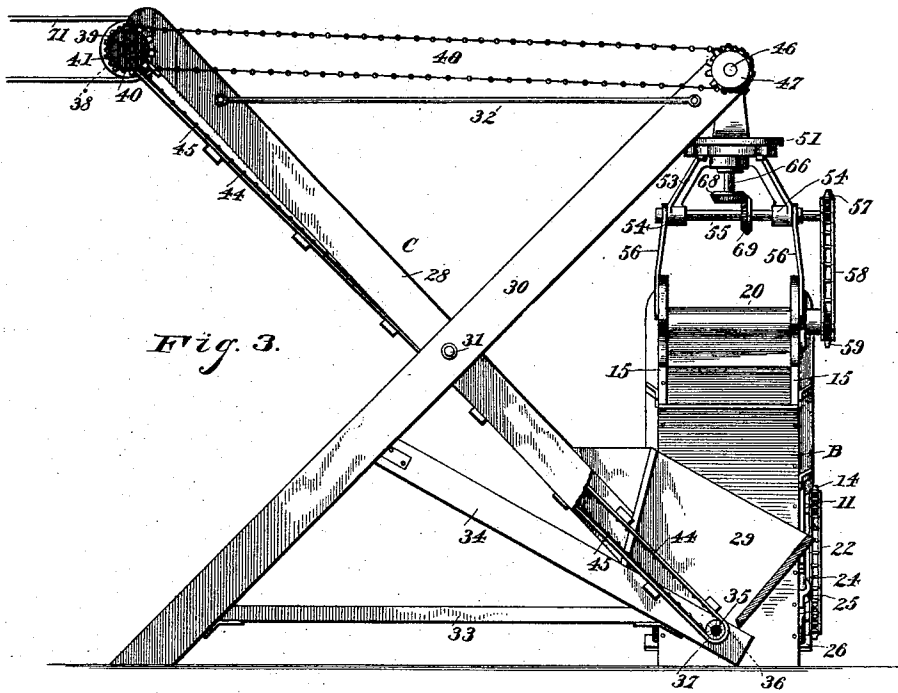


Fig. 3.

Fig. 7.

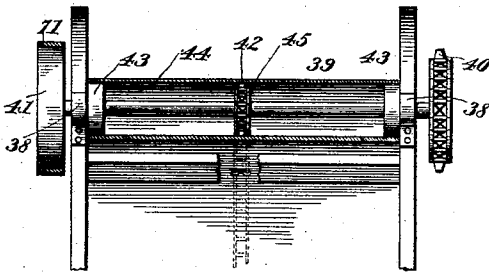
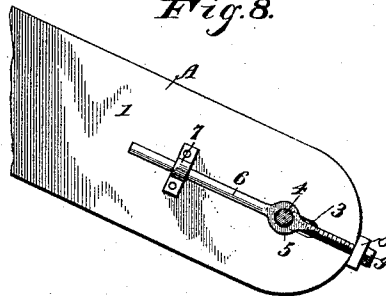


Fig. 8.



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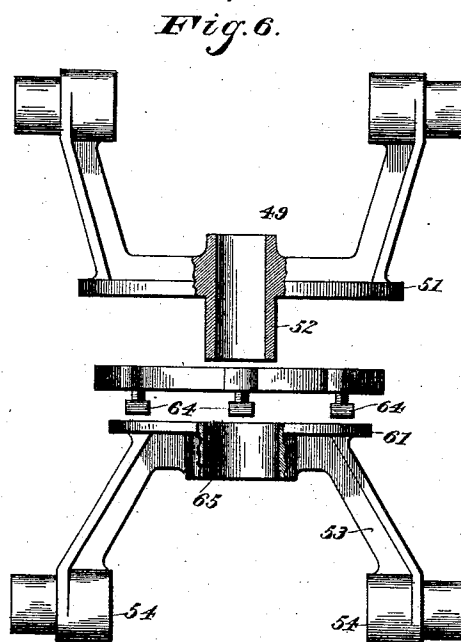
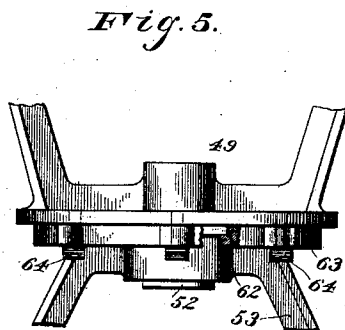
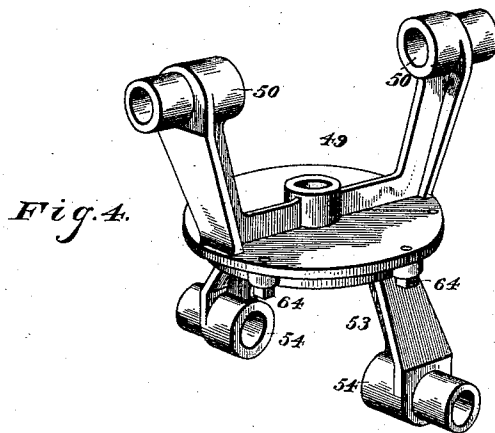
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3 Sheets—Sheet 3.

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Witnesses;

J. M. Withers.
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By their Attorneys,

Inventors.
John Healea and
Geo. G. Healea,
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UNITED STATES PATENT OFFICE.

JOHN HEALEA AND GEORGE G. HEALEA, OF FARMER CITY, ILLINOIS.

CORN-CONVEYER.

SPECIFICATION forming part of Letters Patent No. 486,466, dated November 22, 1892.

Application filed March 23, 1892. Serial No. 426,162. (No model.)

To all whom it may concern:

Be it known that we, JOHN HEALEA and GEORGE G. HEALEA, citizens of the United States, residing at Farmer City, in the county of De Witt and State of Illinois, have invented a new and useful Corn-Conveyer, of which the following is a specification.

Our invention relates to corn-conveyers, the objects in view being to provide a conveyer which by its construction is adapted to be disposed in various directions, or, in other words, to convey corn in other directions than a straight line, whereby corn may be taken from a crib at one side of the latter and delivered to a sheller at another side of the crib, and, furthermore, to accomplish the above in a cheap and simple manner.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a side elevation of a conveyer constructed in accordance with our invention, the same being shown in connection with a corn-crib and as adapted to deliver corn therefrom to a sheller located at an adjacent side of the crib. Fig. 2 is a vertical longitudinal section of the conveyer. Fig. 3 is an end elevation of the conveyer. Figs. 4, 5, and 6 are details of a swivel connection between the last section of the conveyer and the next adjacent section and will be hereinafter referred to. Fig. 7 is a transverse section through the upper end of the last conveyer-section. Fig. 8 is a detail in side elevation and partial section of the lower end of the first conveyer-section.

Like numerals and letters of reference indicate like parts in all the figures of the drawings.

In practicing our invention we employ, preferably, three conveyer-sections, (designated in the drawings as A, B, and C,) though, as will be obvious, these sections may be increased in number at the option of the builder. The section A comprises the opposite side walls or bars 1, the lower ends of which are connected by a curved transversely-disposed end piece 2. In bearing-openings 3, preferably elongated and best shown in Fig. 8, there is mounted in the lower end of the side bars 1 a transverse shaft 4, the extremities of

which pass through and beyond the bearings and are seated in bearing-eyes 5, formed in a pair of opposite adjusting rods or bolts 6, located at the outer sides of the bars 1. These bolts have their inner ends mounted for sliding in keepers 7, secured to the walls of the conveyer-section A, and their opposite ends are threaded and passed through perforations formed in a transverse bar 8, beyond which adjusting-nuts 9 are threaded on the bolts. As will be obvious, by operating these nuts the bolts are drawn toward the end of the conveyer-section, and with them is moved the shaft 4. The shaft 4 is provided between the walls of the conveyer-section with a pulley 10. At the opposite end of the conveyer-section a transverse shaft 11 is journaled, a pulley 12 being mounted on the same and adapted to move therewith. The pulleys 10 and 12 are connected by a conveyer-belt or endless apron 13, having at intervals the usual transverse cleats. Upon the shaft 11 a sprocket-wheel 14 is mounted, the same being at one end of the shaft which is extended beyond the side wall of the conveyer for its reception.

The conveyer-section B comprises opposite side walls 15, the lower ends of which are under the upper end of the section A and are connected by the transverse curved hood 16. An upper shaft 17 and a lower shaft 18 are journaled in the ends of the side walls 15 of the section B, and said shafts carry pulleys 19, over which runs an endless conveyer belt or apron 20, provided at intervals with the transverse cleats. The lower shaft 18 is provided with the sprocket-wheel 21, which is connected with and operates the sprocket 14 by means of an endless chain 22. This chain has located at one side an ordinary belt-tightener 23, consisting of a sprocket over which the chain runs and a pivoted arm in which the sprocket is journaled. The bearing-opening, in which the shaft 18 is journaled, is elongated in the same manner as shown in Fig. 8, and eyebolts 24 receive the ends of the shaft 18 and are mounted in keepers 25 at the sides of the conveyer-section B. A cross-bar 26 is perforated near its ends to receive the threaded ends of the eyebolts, and adjusting-nuts 27 are located on the ends of the eyebolts, whereby, as before described, the belt or apron of the conveyer may be adjusted.

The conveyer-section C comprises opposite side bars or walls 28, which extend under the side walls 15 of the section B and there support a hopper 29. A pair of inclined bars 30 are pivoted at their middles by bolts 31 to the side walls 28 and serve to support the section C at any desired inclination. A brace-rod 32 connects the upper ends of the bars 28 and supporting-bars 30, and a lower brace-bar 33 connects the lower ends thereof. These braces when in the positions shown prevent the relative adjustment of the section C and the inclined bars; but by the detachment of said braces the parts are disconnected and may then be relatively adjusted to arrange the section at any desired inclination. A pair of inclined bars 34 are connected to the brace-bars 30, extend between and below the lower ends of the bars 28 under the hopper 29, and there receive a transverse shaft 35, which at its center carries a sprocket-wheel 36 and at the inner sides of the bars 34 pulleys 37. In bearings 38, secured to the under sides of the bars 28, there is journaled a transverse shaft 39, one end of which carries a sprocket 40 and the other end a belt-pulley 41. At the center of this shaft a sprocket 42 is located, and near its end, at the inner sides of the bars 28, pulleys 43 are located. An endless belt or apron 44, provided at intervals with cleats, passes around the pulleys 43 and 37 and at its inner side is secured to a sprocket-chain 45, which travels on the sprockets 36 and 42.

At the upper ends of the brace-bars 30 a transverse shaft 46 is journaled, the same at one end being provided with a sprocket-wheel 47, connected by an endless sprocket-chain 48 with the sprocket-wheel 40 before mentioned. A U-shaped hanger 49 (best shown from Figs. 4 to 6) is provided at its upper extremities with transversely-opposite bearing-eyes 50, which loosely receive the transverse shaft 46. At the lower end of the hanger a disk 51 is integrally formed and the same is provided at its center with a depending tubular stud 52.

53 designates an inverted-U-shaped hanger provided at its lower extremities with transversely-opposite bearing-eyes 54, in which a transverse shaft 55 is journaled. This shaft is supported by standards 56, which are secured to the opposite side bars 15 of the conveyer-section B at the upper end of the latter, and at one end of the shaft a sprocket-wheel 57 is located, the same being geared by a chain 58 to a sprocket-wheel 59, located upon the shaft 17 of the said conveyer-section. This chain is maintained in proper adjustment by an ordinary belt-tightener 60.

At the upper end of the inverted-U-shaped hanger 53 a disk 61 is integrally formed, the same being somewhat smaller in diameter than the disk 51 of the hanger 49 and resting in an annular L-shaped groove 62, formed in the upper face and inner periphery of a ring 63. This ring 63 is provided at intervals with bolt-openings, through which bolts 64 pass upwardly into perforations formed in the disk

51, whereby, as will be obvious, the two hangers are coupled together in such a manner as to swivel. The disk 61 is provided with a central opening 65 and through the same depends the tubular stud 52 of the upper hanger 49. In the tubular stud 52 a vertical shaft 66 is journaled and the same is provided at its upper end with a beveled pinion 67 and at its lower end with a similar pinion 68, the latter engaging with and operating a bevel-pinion 69, located upon the shaft 55. If desired and when convenient, a brace-rod 70 may be employed between the inner inclined brace 80 30 and a corn-crib D. (Shown in Fig. 1.) This crib, as will be obvious, is of the ordinary construction, and is shown merely to indicate the manner of using the conveyer. By an inspection of this figure it will be seen 85 that the conveyer may be moved around the crib, so as to take corn from various convenient parts of the same, the sheller remaining in its position and the conveyer twisted or disposed by reason of the swivel connection 90 between the last section and the next adjacent section, so as to conform to the position of the crib and sheller. It will be seen that the last section, being swiveled, may be swung to the right or left to any desired degree, may 95 be placed in alignment with the remaining sections, or otherwise disposed to conform to the requirements, as dictated by the relative positions of the corn-crib and sheller or the point of the former at which it is desired to 100 remove the corn.

The operation of the mechanism for transmitting motion throughout the series of belts or aprons comprised in the conveyer may be briefly outlined as follows: Motion being imparted from any suitable motor—as, for instance, from the sheller through a belt 71 to the pulley 41—is conveyed by the shaft 35 through the sprockets 42 to the chain 45 and to the belt 44. The rotation of the shaft 39 causes similar movement upon the part of the sprocket 40, which movement is conveyed by a chain 48 to the sprocket 47 and shaft 46. The shaft 46, through the medium of the bevel-gears 72 and 67, conveys motion to the vertical shaft 66 through the swivel connection 115 between the last two sections of the conveyer, and by the gears 68 and 69 rotates the shaft 55. This shaft, through the medium of the sprockets 57 and sprocket-chain 58, rotates the shaft 17, conveying motion to the belt 20 and lower shaft 18 of the section B. Motion is then conveyed through the medium of the sprocket-wheels 21 and 14 and belts 22 to the shaft 11 to the upper end of section A, and 125 thus the first belt 13 is operated. The ears of corn, being caught by the belt 13, are carried by the latter to the lower end of the belt 20, and by the belt 20 are delivered into the hopper 29, where they are caught by the belt 130 44 and carried up the inclined section C and delivered to the sheller.

Having described our invention, what we claim is—

1. In a corn-conveyer, the combination, with an inclined terminal section having an apron, oppositely-inclined brace-bars connected to said section and terminating at their upper ends over the lower end of the section, and the transverse shaft connected by sprocket-chain to one of the shafts of the apron of an adjacent section, of the swiveled connection between the upper ends of the brace-bars and the upper end of the adjacent section, said connection comprising a hanger provided with a disk having a grooved ring and a central tubular stud, and an inverted hanger provided with a disk swiveled in the grooved ring and connected to a transverse shaft upon the adjacent section, and a vertical shaft mounted in the tubular stud and geared at opposite ends to the said transverse shafts carried, respectively, by the terminal and adjacent sections, substantially as described.

2. A corn-conveyer comprising the inclined section C, the inclined braces 30, pivoted thereto, the drive-shaft 39 at the upper end of the conveyer C, the pulley 41 and the sprocket 40 thereon, the belt 71, passing over the pulley, the shaft 46, journaled in the upper ends of the inclined braces, the sprocket 47, the chain 48, connecting the sprockets 40 and 47 of the section B, the standards 56, rising from the upper end of the same, the belt-operating shaft 17, journaled in the upper end of the section, the inverted-U-shaped hanger 53, having eyes 54 at its lower end, the shaft 55, passing through the eyes and upper ends of the standards and carrying the bevel-gear 69 near its center and at one end the sprocket-wheel 57, the sprocket-wheel 59, mounted on the shaft 17, the chain 58, connecting the sprockets 57 and 59, the disk 61 at the upper end of the hanger 53, provided with the central opening 65, the ring 63, having the L-shaped recess 62 for receiving the disk 61, the U-shaped hanger 49, provided at

its lower end with a disk 51, the same having the tubular stud 52, passing through the opening 65 of the hanger 53, the bolts 64, passing through the ring and disk 51, eyes 50, formed at the upper end of the hanger 49 for the reception of the shaft 46, the gear 72 on the shaft 46, the vertical shaft 66, mounted in the tubular stud 52 and provided with the gear 67, meshing with the gear 72, and with the gear 68, meshing with the gear 69, substantially as specified.

3. In a corn-conveyer, the inclined terminal section C, having side bars 28, combined with the oppositely-inclined braces 30, pivoted at 31 to said side bars, the connecting-bars 32 between the upper ends of the braces and the upper end of the section, the hopper 29 at the lower end of the section, the inclined brace-bars 34, connected at their upper ends to brace-bars 30 below the pivot 31 and lying at their lower ends between the bars 28, the shaft 35, journaled in bearings in the lower ends of bars 34, the shaft 39, journaled in the upper ends of bars 28, a sprocket-chain connection between shafts 35 and 39, the apron carried by said shafts, the adjacent section disposed at one end above said hopper and suspended by a swiveled connection from the upper ends of the bars 30, the shaft 55, carried by the adjacent section and connected to the shafts for operating the apron thereof, and the transverse shaft 46 at the upper ends of brace-bars, geared to shaft 55 and connected by sprocket-chain to the shaft 39, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

JOHN HEALEA.

GEORGE G. HEALEA.

Witnesses:

J. D. DAUGHERTY, Jr.,

A. B. WELLS.