

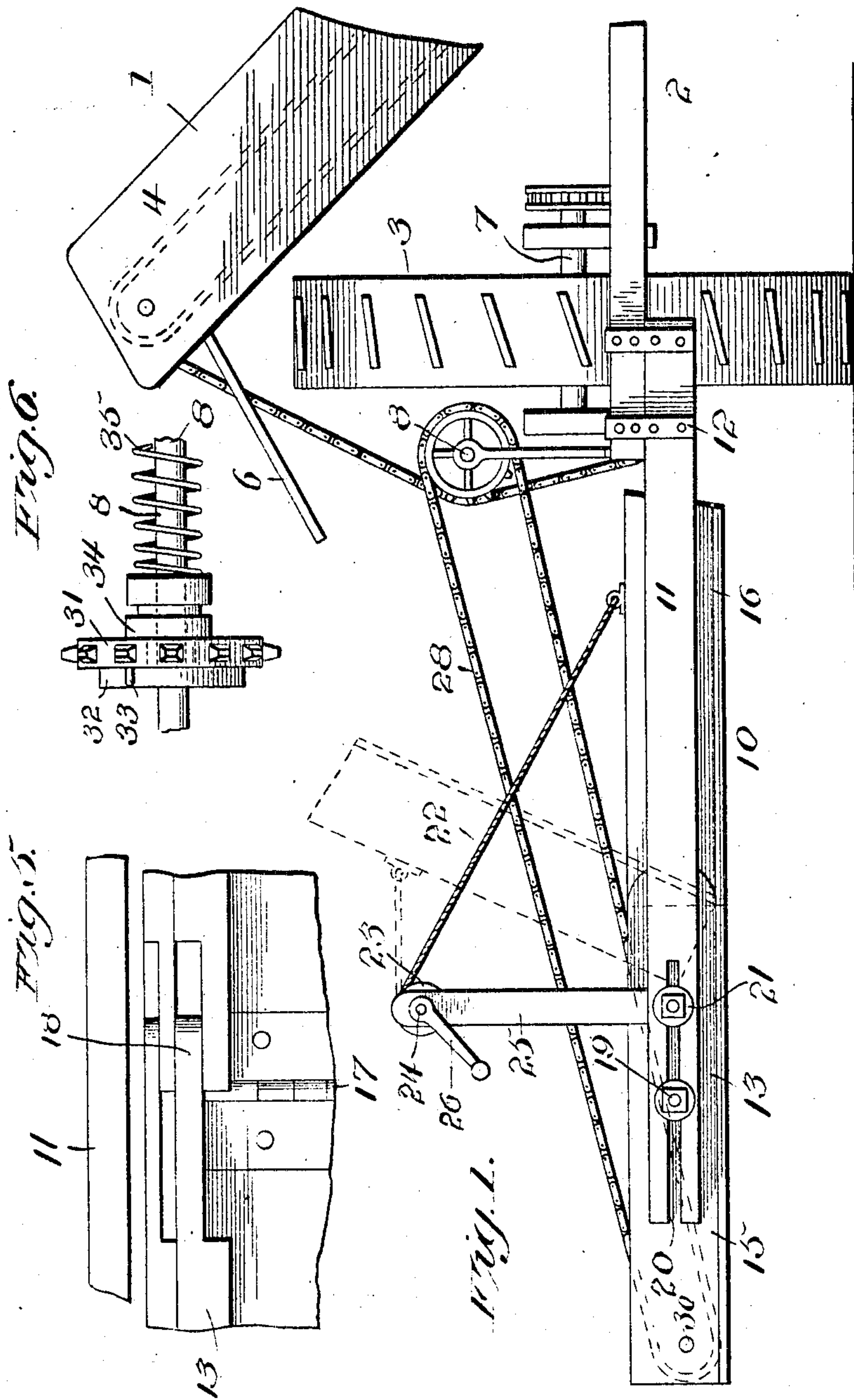
No. 849,689.

PATENTED APR. 9, 1907.

O. L. KLEVEN.  
HARVESTING MACHINE ATTACHMENT.

APPLICATION FILED APR. 9, 1906.

3 SHEETS—SHEET 1.



WITNESSES:

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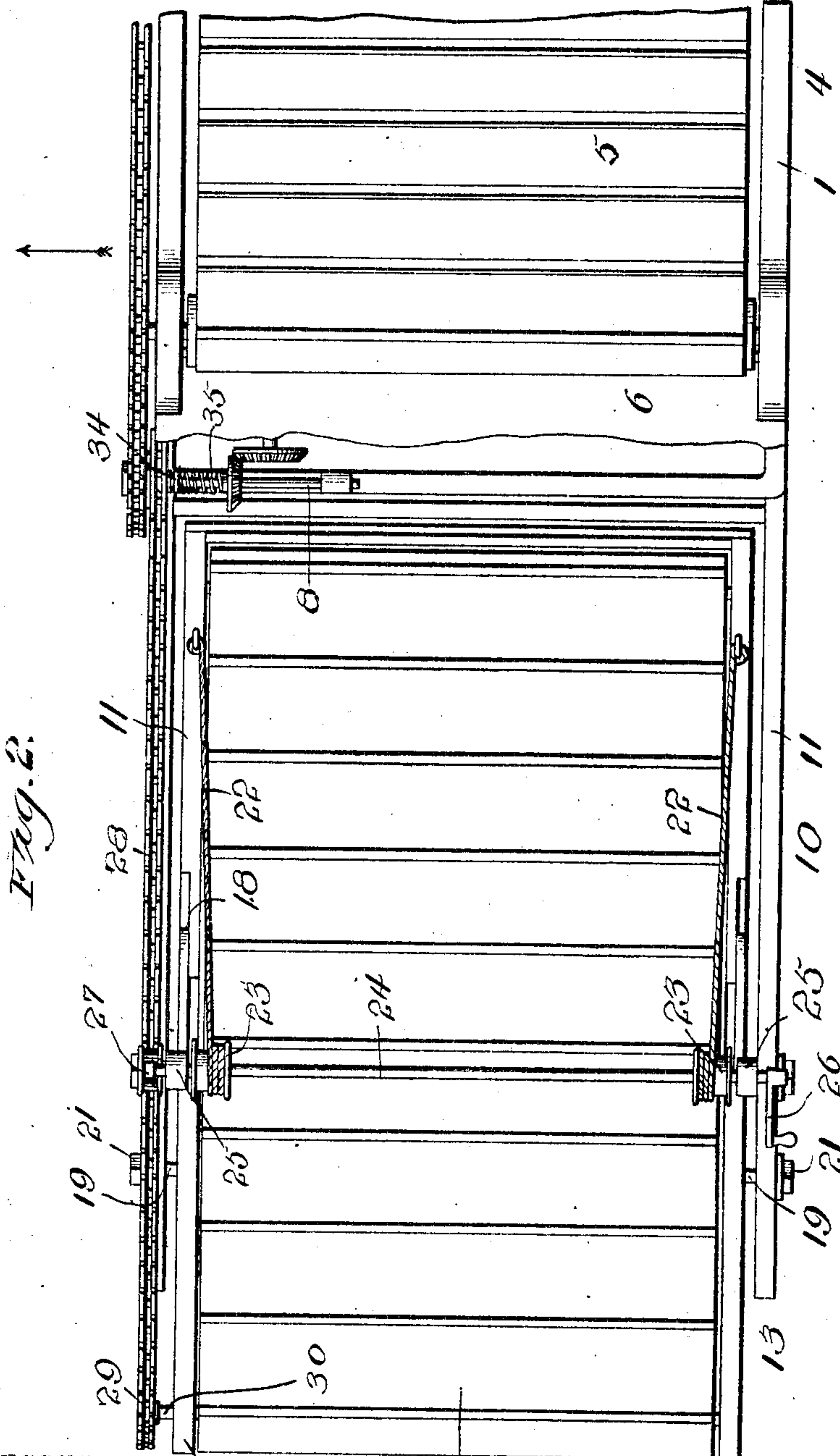
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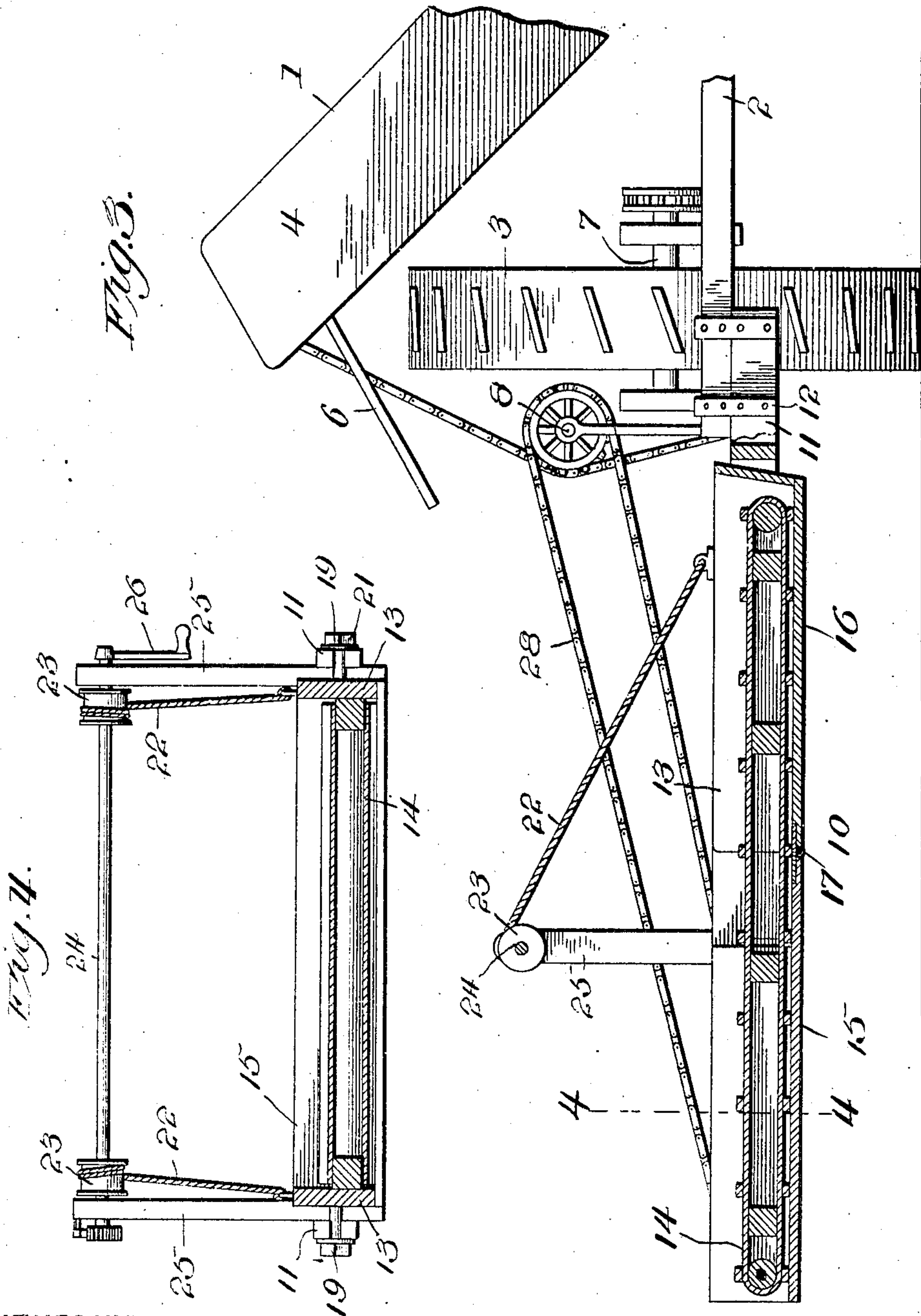
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# UNITED STATES PATENT OFFICE.

OLE L. KLEVEN, OF EAST GRAND FORKS, MINNESOTA.

## HARVESTING-MACHINE ATTACHMENT.

No. 849,689.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed April 9, 1906. Serial No. 310,672.

*To all whom it may concern:*

Be it known that I, OLE L. KLEVEN, a citizen of the United States, residing at East Grand Forks, in the county of Polk and State of Minnesota, have invented certain new and useful Improvements in Harvesting-Machine Attachments, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention is a harvesting-machine attachment by means of which two or more cuttings or swaths of flax, grain, or the like cut by the machine will be successively dropped or deposited in a single row upon the ground for the purpose of facilitating the gathering thereof.

The object of the invention is to provide a simple and practical apparatus of this character which will be highly efficient in operation and adapted for use in connection with any harvester.

Other objects and advantages of my invention, as well as the structural features by means of which these objects are attained, will be made clear by an examination of the following specification, taken in connection with the accompanying drawings, in which the same reference-numerals indicate corresponding parts throughout, and in which—

Figure 1 is a side elevation of my improved flax attachment, showing it applied to a harvester of well-known construction. Fig. 2 is a top plan view of the same. Fig. 3 is a vertical longitudinal sectional view through the attachment. Fig. 4 is a vertical transverse sectional view taken on the plane indicated by the line 4 4 in Fig. 3. Fig. 5 is a detail plan view showing the hinge connection or joint between the two sections of the carrier-frame of the attachment, and Fig. 6 is a detail view of the clutch for throwing the endless carrier of the attachment out of operation.

The embodiment of my invention illustrated in the drawings is in the form of an attachment which may be removably mounted upon a harvesting-machine of any well-known or preferred form and construction, and, if desired, it may be built upon the machine and form a permanent part of the same.

While my invention contemplates any suitable construction for accomplishing the desired object, the present embodiment of it comprises an endless apron or carrier mounted in a suitable support upon the harvester in a position to receive the flax dropped by

the latter and having a retractable portion or swinging section which may be moved or swung out of the path of the dropping flax when the harvester makes one trip or round in the field and then moved or swung into the path of the flax when the harvester makes its next trip or round in order that the second row of flax will be carried upon the endless apron of the attachment outwardly or laterally from one side of the machine and be deposited upon the row that was cut immediately before it.

Only a portion of a harvester 1 of well-known form is illustrated, said portion comprising the horizontal main frame 2, the main supporting and driving wheel 3, and the inclined frame 4 for the endless apron or carrier 5, which discharges the cut flax from the machine. The frame 4 carries a downwardly and outwardly inclined discharge board or chute 6, which receives the flax from the carrier 5 and deflects it to one side of the machine. The shaft 7 of the drive-wheel 3 is connected by suitable gearing (shown in Figs. 2 and 3 of the drawings) to a shaft 8, from which the endless apron or carrier of the attachment 10 is driven.

The apparatus or attachment 10 comprises a supporting-frame consisting of connected parallel side bars or beams 11, which have their inner ends detachably connected to the main frame 2 of the harvester by brackets or similar fastenings 12. Adjustably mounted between the outer ends of the side bars 11 is a frame 13, within which is mounted an endless carrier 14, here shown in the form of a slatted belt or apron. The frame 13 is composed of an outer stationary section 15, adjustably secured between the outer ends of the bars 11 and an inner swinging section 16, which is hinged to the inner end of the section 15 to swing in a vertical plane, as indicated in dotted lines in Fig. 1. Each of the sections 15 and 16 comprises a bottom and two upright sides, and the hinge joint or connection between them is effected, as clearly shown in Fig. 5, by connecting their bottoms by a hinge 17 and by recessing the overlapping end portions 18 of their sides. The adjustable connection between the relatively stationary section 15 and the side bars 11 permits said section to be adjusted toward and from the harvester and consists in providing upon the sides of the section 15 studs 19, which project through and slide in longitudinal slots 20 in the outer ends of the bars



11, nuts 21 being provided upon the outer screw-threaded ends of said studs for clamping the parts in an adjusted position.

When the swinging section 16 is in its lowered position (shown in full lines in Fig. 1) the inner end of the apron or carrier 14 is disposed beneath the discharge-board 6 of the harvester, so as to receive the flax dropping from the same; but when it is elevated or swung up to its dotted-line position shown in Fig. 1 said apron or carrier will be out of the path of the dropping flax, and the latter will fall downwardly between the side bars 11 and drop upon the ground. In order to elevate the section 16, cables or other flexible connections 22 are attached to its inner free end and wound upon drums or windlasses 23, secured upon a transverse shaft 24, journaled in upright arms or brackets 25 upon the sides of the section 15. A crank-handle 26 is provided upon one end of said shaft for winding said cables upon their drums, and the shaft is held against retrograde rotation by the well-known form of pawl-and-ratchet connection 27. The endless apron or carrier 14 is driven from the shaft 8 by means of a sprocket-chain 28, passed around a sprocket-wheel 29 upon the shaft 30 of the outer roller, about which the apron 14 passes, and around a sprocket-wheel 31 upon said shaft 8.

A clutch device (shown in Fig. 6 of the drawings) is provided for connecting and disconnecting the wheel 31 to and from the shaft 8 for the purpose of throwing the apron into and out of operation. This clutch comprises a head 32, fixed upon the shaft 8 and adapted to be engaged by studs 33 upon one face of the sprocket-wheel 31. The latter rotates freely upon a hub or sleeve 34, which is mounted to slide longitudinally upon but rotate with the shaft 8. A coil-spring 35 upon the latter forces the sleeve 34 toward the head 32 to move the studs 33 on the sprocket-wheel into engagement with said head, and a lever or any other suitable means may be provided for moving said sleeve in the opposite directions against the tension of said spring when it is desired to disconnect the wheel and stop the apron.

The operation of the invention is as follows: Before the harvester makes its first trip or round in the field the swinging section 16 of the apron or carrier-frame of the attachment is secured in its elevated position, (shown in dotted lines in Fig. 1,) and the sprocket-wheel 31 is shifted to disengage its studs 33 from the head 32. When the harvester is drawn forwardly in the direction indicated by the arrow in Fig. 2, the motion of the shaft of the drive or bull wheel 3 will be imparted to the shaft 8 and to the carrier 5, and the grain discharged from the upper end of the latter will fall upon the board 6 and drop therefrom through the frame 11 and upon

the ground. Before the harvester makes its second trip or round the section 16 is lowered to its position (shown in full lines in Fig. 1) and the sprocket-wheel 31 is locked to rotate with the shaft 8. When the harvester makes its second trip, the flax falling from the board 6 will drop upon the apron 14 and be carried outwardly by the latter and discharged upon the top of the row which was cut when the harvester made its first trip. By thus raising and lowering the section 16 and connecting and disconnecting the wheel 31 every other row of flax cut by the machine will be deposited upon the row that was cut immediately preceding it.

While I have shown and described the preferred embodiment of my invention, it will be understood that I do not wish to be limited to the precise showing herein set forth, since various changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention as defined by the appended claims.

Having thus described my said invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination with a harvester, of a carrier mounted to receive the discharge from said harvester, and means for shifting said carrier out of the path of the discharge from said harvester.

2. The combination with a harvester, of means mounted thereon for depositing every other row of flax or the like cut by it upon the ground, and for depositing the other alternate rows of flax upon the tops of the immediately-preceding rows of flax already deposited upon the ground, substantially as set forth.

3. The combination with a harvester, of an endless carrier having a swinging section to receive the discharge from said harvester, means for elevating said swinging section out of the path of the discharge from said harvester, means for driving said endless carrier, and means for throwing said driving means into and out of operation.

4. The combination with a harvester and its discharge element, of a flax or grain receiving means extending laterally with respect to the line of travel of the harvester and having an inner retractable section disposed adjacent to said discharge element to receive the flax or grain discharged from said element, and means for moving said retractable section out of the path of the discharge from said element.

5. The combination with a harvester and its discharge element, of a flax or grain receiving means extending laterally with respect to the line of travel of the harvester and having an inner retractable section disposed adjacent to said discharge element to receive



the flax or grain discharged from said element, said retractable section being mounted for swinging movement to permit its free inner end to be elevated out of the path of the discharge from said element.

6. The combination with a harvester, of a carrier extending laterally with respect to the line of travel of the harvester, the inner end of said carrier being mounted for vertical swinging movement and adapted to receive the discharge from said harvester, and means for elevating the inner ends of said carrier out of the path of the discharge from said harvester and holding it in such elevated position.

7. The combination with a harvester, of a carrier extending laterally with respect to the line of travel of the harvester, the inner end of said carrier being mounted for vertical swinging movement and adapted to receive the discharge from said harvester, and a cable and windlass for elevating the inner end of said carrier to support it out of the path of the discharge from said harvester.

8. The combination with a harvester, of a supporting-frame extending laterally with respect to the line of travel of the harvester, a swinging frame pivoted at its outer end upon said supporting-frame, a carrier mounted in said supporting and swinging frames, the inner end of said carrier upon said swinging frame being adapted to receive the discharge from said harvester, and means for elevating the inner end of said swinging frame and the inner end of said carrier to hold the latter out of the path of the discharge from said harvester.

9. The combination with a harvester or the like, of a supporting-frame detachably mounted thereon and extending laterally with respect to the line of travel of the same, a carrier-frame slidably and adjustably mounted upon the supporting-frame and having a vertical swinging section at its inner end, an endless carrier mounted on said carrier-frame and having its inner end movable with the swinging section of the latter, said inner end of the carrier being adapted to receive the discharge from the harvester, and means for raising the swinging section of the carrier-frame and the inner end of the carrier out of the path of the discharge from the harvester and for holding the same in an elevated position.

10. The combination with a harvester or the like having a frame, a driving-shaft and a discharge element, of a supporting-frame

upon said harvester-frame and projecting laterally with respect to the line of travel of the harvester, a carrier-frame mounted in the outer end of said supporting-frame, and adjustable toward and from the harvester, a swinging section upon the inner end of the carrier-frame, rollers in said carrier-frame and its said swinging section, an endless apron or carrier passed around said rollers, the inner end of said apron or carrier being disposed beneath the discharge element of the harvester and adapted to receive the discharge therefrom, means for elevating the inner end of the swinging section of the carrier-frame and the inner end of the apron or carrier to hold the latter out of the path of the discharge from said element, and means for driving said rollers from the driving-shaft of the harvester, substantially as described.

11. An attachment of the character described comprising a supporting-frame for detachable connection to a harvester or the like, a carrier-frame slidably and adjustably mounted upon the outer portion of the supporting-frame, a swinging frame-section at the inner end of said slidably and adjustably mounted carrier-frame, an endless carrier mounted in said carrier-frame and its swinging section, and means for raising and lowering the swinging section of the carrier-frame and the inner end of the endless carrier and holding the same in an elevated position, substantially as shown and for the purposes set forth.

12. An attachment of the character described comprising a supporting-frame for detachable connection to a harvester or the like, a carrier-frame slidably and adjustably mounted upon the outer portion of the supporting-frame, a swinging frame-section at the inner end of said slidably and adjustably mounted carrier-frame, rollers in said carrier-frame and its swinging section, an endless carrier-apron passed around said rollers, a windlass mounted upon the slidably and adjustably mounted outer section of the carrier-frame, and a cable connecting said windlass to the free inner end of the swinging section of the carrier-frame, substantially as shown and for the purposes set forth.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

OLE L. KLEVEN.

Witnesses:

JOHN A. SORLEY,  
V. T. LEANDER.