

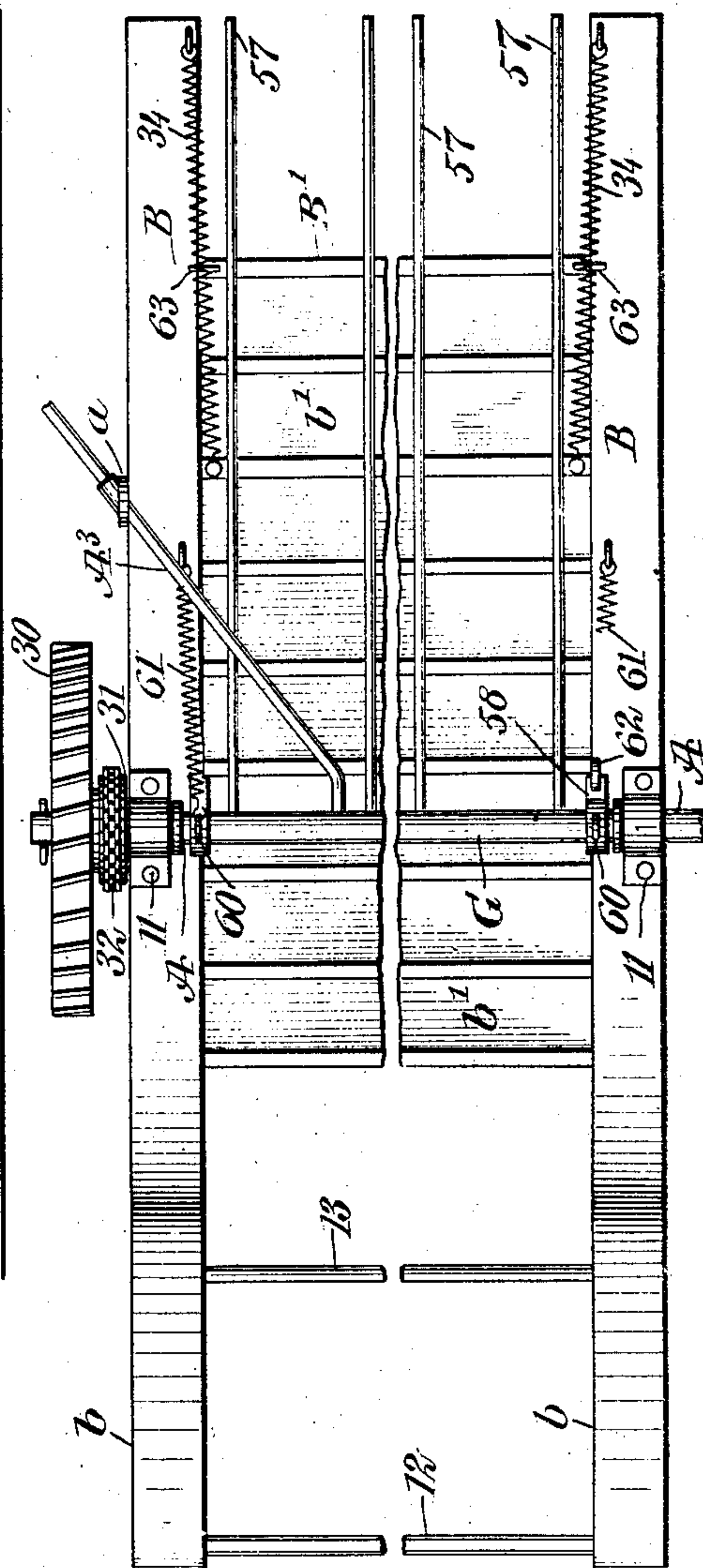
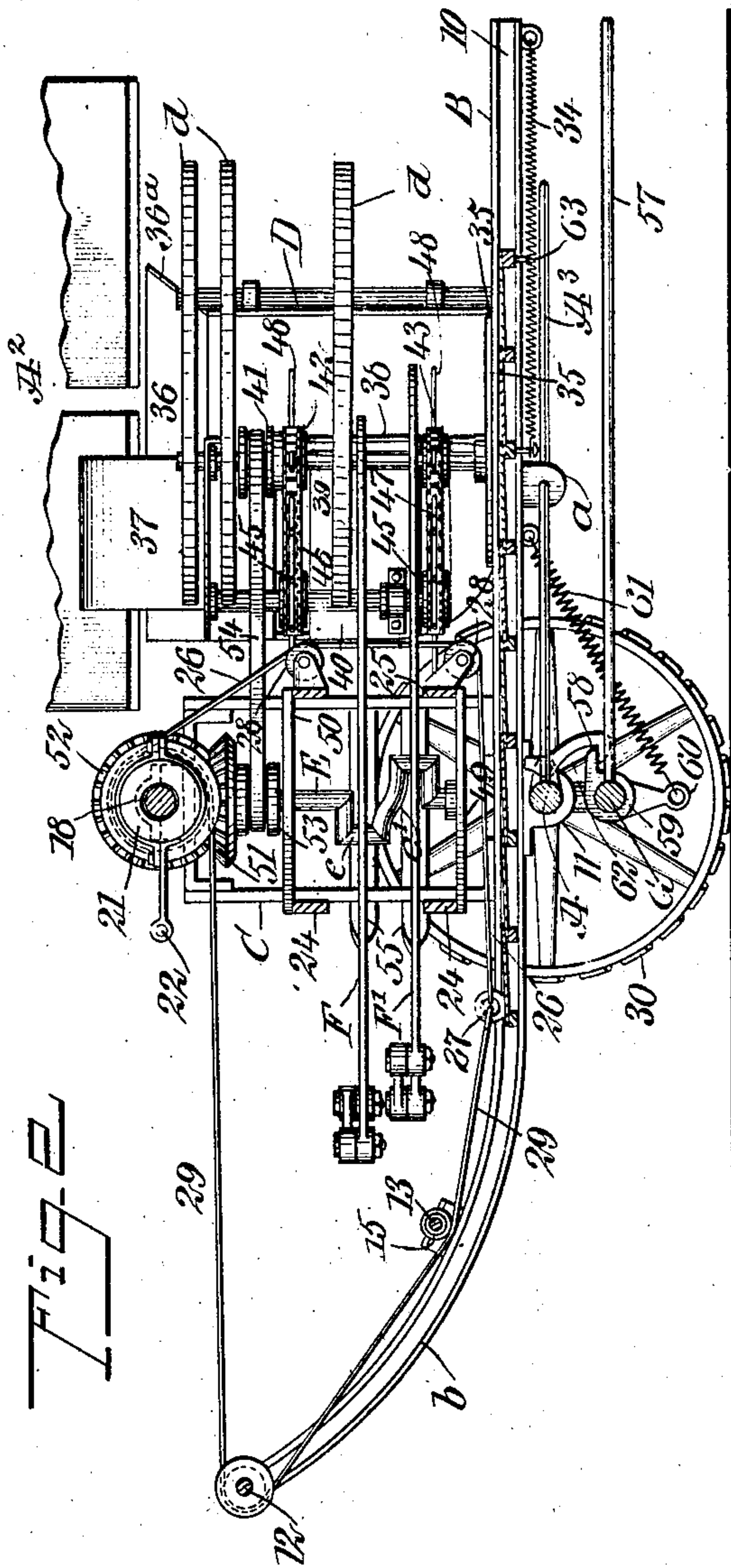
No. 819,554.

PATENTED MAY 1, 1906.

G. R. KELTNER.
WHEAT SHOCKER.

APPLICATION FILED MAY 31, 1905.

3 SHEETS—SHEET 2.



WITNESSES:

J. A. Brophy
G. R. Keltner

Fig. 4

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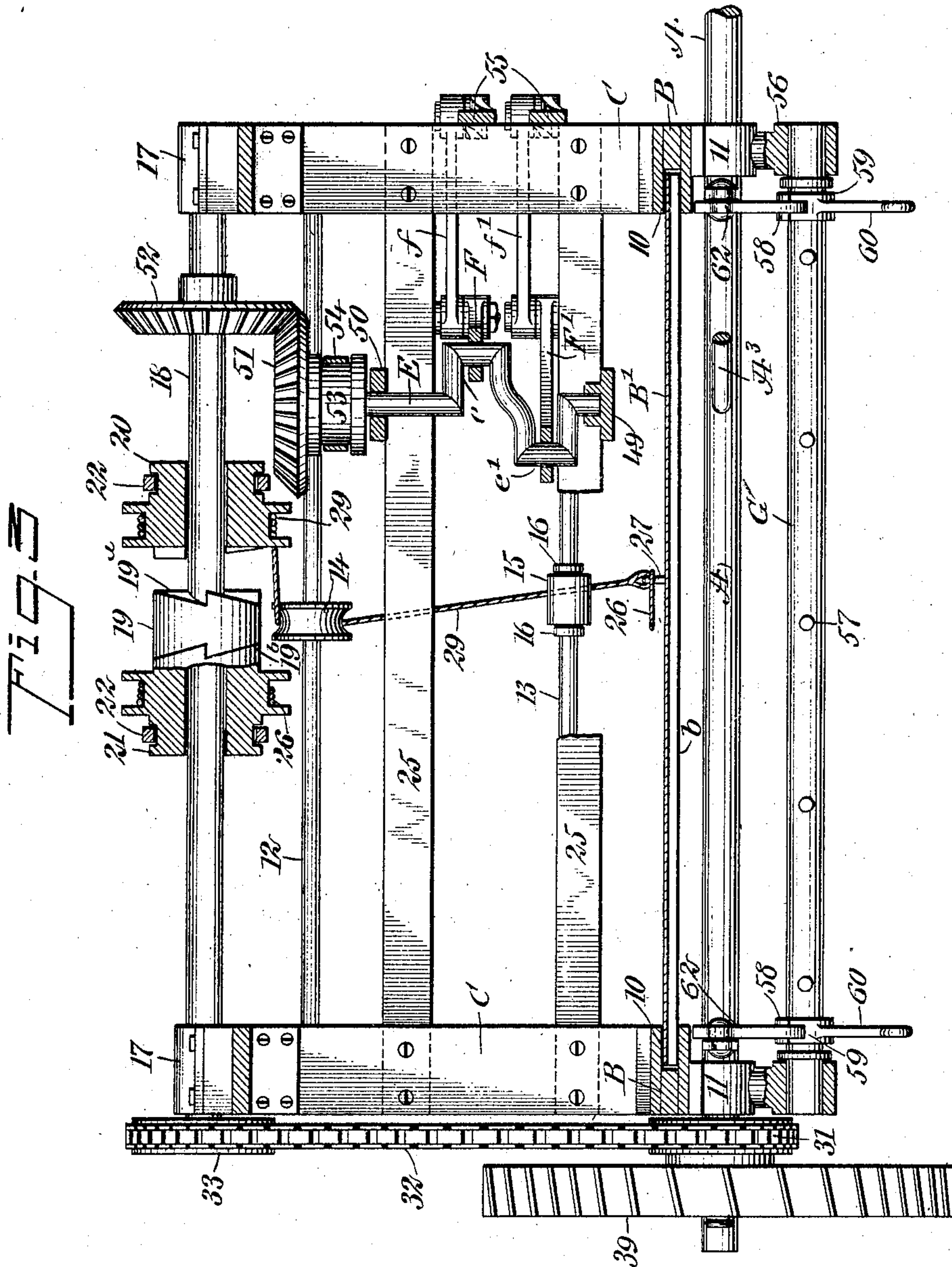
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J. A. Brophy
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WHEAT-SHOCKER.

No. 819,554.

Specification of Letters Patent.

Patented May 1, 1906.

Application filed May 31, 1905. Serial No. 263,083.

To all whom it may concern:

Be it known that I, GEORGE ROBERT KELTNER, a citizen of the United States, and a resident of Covington, in the county of Garfield and Territory of Oklahoma, have invented a new and Improved Wheat-Shocker, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide a simple, economic, and effective construction of wheat-shocker adapted for attachment to a harvesting-machine, taking the place of the customary bundle-carrier, the said shocker being so located with reference to the harvester as to receive the bundles from the binding-table of the machine.

A further purpose of the invention is to provide a wheat-shocker so constructed that as it receives the bundles they are fed in standing position, butt downward, upon a platform and are packed in horizontally-located curved guard-arms and wherein the platform at proper time is slid from beneath the packed bundles, which are then received upon a series of horizontal fingers, and upon said fingers being automatically dropped the bundles slide therefrom to the ground and the platform is returned to its normal position to receive other bundles.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the improved machine. Fig. 2 is a horizontal section taken about centrally through the machine. Fig. 3 is a transverse section through the machine, taken upon an enlarged scale. Fig. 4 is a bottom plan view of the machine, and Fig. 5 is a detail view of the partial cover for the hopper in which the shocks are initially received.

A represents the axle, which at its inner end is attached in any approved manner to the frame A' of a harvesting-machine, the attachment being so consummated as to bring a hopper D, to be hereinafter described, in close proximity to the binding-tables A² of the harvester as the said hopper D is adapted to receive the bundles from the said table. Side bars B of suitable length are arranged in parallelism, crossing the axle A, and the said

side bars are provided at their inner edges each with a longitudinal channel 10. The forward ends of the said side bars B are more or less upwardly curved, as is shown at b in Figs. 1 and 2.

The axle A is journaled in suitable bearings 11, secured to the under face of the said side bars B of the frame at a point about centrally between the ends of the said bars, as is illustrated in Figs. 2 and 4. A³ represents a brace which is attached to the said axle and is carried rearward beyond the inner side of the frame for attachment to the mower in any suitable or approved manner, so as to steady the shocker.

A cross-bar 12 is carried from one side bar B to the other at the forward ends of said bars, and adjacent to the cross-bar 12 a second cross-bar 13 is supported on the said side bars B, as is shown in Figs. 1 and 3. At or about centrally of the cross-bar 12 a peripherally-grooved pulley 14 is located, while a friction-roller 15 is similarly mounted on the cross-bar 13 between suitable guide-collars 16, as is shown in Figs. 1 and 3. Vertical brackets C are bolted or otherwise secured to the side pieces B of the frame over the axle A, and these brackets or standards may be of any suitable or approved construction; but each is provided with a bearing 17 at its upper portion, and in these bearings the end of a shaft 18 is mounted to turn, the shaft being driven from the axle A in a manner to be hereinafter explained.

A clutch-collar 19 is firmly secured to the shaft 18, preferably at its center, and this clutch-collar has its side faces 19^a and 19^b provided with correspondingly-formed clutch-teeth, as is shown in Figs. 1 and 3. Two drums 20 and 21 are mounted to slide and turn loosely on the shaft 18, and the said drums are located one at each side of the clutch-collar 19, the inner side faces of the said drums 20 and 21 being provided with teeth adapted for locking engagement with the teeth on the clutch-collar. These two drums 20 and 21, which are winding-drums, are held spaced a suitable distance apart and are simultaneously operated by means of a shifting-fork 22, the handle 23 whereof is carried to the harvester, preferably over the platform, where the said shifting-fork 22 can be readily operated.

The clutch-fork 22 may be moved to carry both winding-drums 20 and 21 out of driven connection with the clutch-collar 19, and

either one or the other of the said winding-drums may be driven from the said clutch-collar; but the two drums 20 and 21 are never simultaneously driven.

5 The standards C are shown connected at the front by cross-bars 24 and at the rear by cross-bars 25, and the winding-drums 20 and 21 are adapted to control the movement of a platform B', which platform is constructed of
10 a series of transverse strips having flexible connections, as the side edges of the platform are adapted to enter and to travel in the grooves 10 of the side bars B and to move up the curved forward portion of said side bars.
15 The said platform B' is controlled in its movement in the following manner: A cable 26 is secured to the central portion of the platform B' at its forward edge through the medium of a keeper 27 of any suitable or ap-
20 proved construction, and the cable 26 is carried to the rear and over friction-rollers 28, located on the upper and lower rear cross-bars 25, above referred to, and then the upper end of the cable 26 is carried upward and for-
25 ward over the drum 21 and is attached thereto. A second cable 29 is connected with the keeper 27, and said second cable 29 is carried upward under the friction-roller 15 and the guide-pulley 14 and is then returned to the
30 rear and its other end portion is passed rearwardly beneath the drum 20, being adapted to wind on said drum in a direction the reverse of that of the cable 26, so that when the winding-drum 20 is in operation by
35 means of the cable 29, connected therewith, the platform B' is drawn forward; but when the drum 20 is carried out of driven connection with the clutch-collar 19 and the drum 21 is brought in such relation to the said
40 clutch-collar the cable 26 will be wound up and will draw rearwardly on the platform B until the platform is restored to its normal position, when both drums 20 and 21 are carried out of engagement with the clutch-col-
45 lar 19 until their services are again required. It may be here remarked that springs 34, attached to the bottom of the platform B' and to the under rear edge portions of the side bars B, assist in bringing back the platform
50 B' to its normal position, the said springs being best shown in Figs. 2 and 4.

At the outer end of the axle A a supporting-wheel 30 is mounted to turn, and the hub of said wheel is provided with an attached
55 sprocket-wheel 31, connected by a chain 32 with a larger sprocket-wheel 33 at the corresponding end of the shaft 18, as is best shown in Fig. 3.

60 With reference to the hopper D, heretofore referred to as receiving the bundles from the binding-tables A² of the harvester, the said hopper D is L-shaped in plan or cross-section and is suitably supported on the inner side bar B of the shocker, and the longitudinal
65 section of the said hopper is parallel with the

binding-tables, while the transverse section which extends over the platform B', is at an angle to the said binding-tables, as is clearly shown in Fig. 1, wherein it is also shown that the outlet 35 for the hopper D is at the inner
70 end of its transverse section or the inner end portion of such section which is over the platform B'.

The upper portion of the longitudinal or rear transverse portions of the hopper D are
75 given an upward inclination, forming directing-plates 36 and 36^a, as is shown in Figs. 1 and 5, and an arched guide-plate 37 (shown clearly in Fig. 5) extends over, but is free from, the directing-plate 36. Thus when a
80 sheaf is discharged from the binder the butt will pass under the guide-plate 37 and will drop into the bundle-passage, while the heads will strike upon the directing-plate 36^a, which
85 plate prevents the heads from following the butts. Therefore the weight of the bundle places it in a standing position in the passage-way butt down.

Where the sections of the hopper D connect adjacent to the angular wall facing the
90 front, upper and lower plates 37^a are provided, and in these plates three vertical shafts 38, 39, and 40 are mounted to turn, as is shown in Fig. 1, the said shafts being placed
95 on triangular lines. The shaft 38, which is the outer shaft or that located at the delivery end of the hopper, is provided with a grooved pulley 41 at its upper end and a sprocket-wheel 42, forming a portion of said pulley, to-
100 gether with a lower sprocket-wheel 43, and upper and lower sprocket-wheels 44 are secured to the intermediate shaft 39, while corresponding sprocket-wheels 45 are attached
105 to the inner and forward shaft 40, as is shown in Fig. 2, and the corresponding or horizontally-aligning sprocket-wheels above referred to carry endless belts 46, which belts are preferably two in number and are provided with
110 series of pins 48, which extend horizontally from the belts. In the operation of the belts the said pins travel in the hopper D, the walls of the hopper where the belts are located being
115 slotted for the passage of the pins. These pins 48 in the operation of the belts serve to gradually move or slide the bundles along in the hopper D and force them out into suitable receivers. These receivers are usually
120 three in number and consist of curved spring-fingers d, two of said fingers being located at the upper portion of the delivery end of the hopper, one below the other and one being
125 curved in opposite directions to the other, and the third finger is secured to the lower side portion of the hopper, being curved in the same direction as the uppermost finger at the same side; but the arrangement of these guard-fingers may be varied when so desired.

At the right-hand side of the frame a lower saddle-plate 49 is carried from the lower cross-bar 25 to the lower cross-bar 24, and a corre-
130

sponding saddle-plate 50 extends from the upper cross-bars 25 and 24. These two saddle-plates serve as bearings for a shaft E, having two crank-arms *e* and *e'* extending in opposite directions. The crank-shaft E is operated through the medium of a bevel-gear 51, secured to its upper end, meshing with a similar gear 52 on the shaft 18, and on the said shaft E a pulley 53 is likewise secured, connected by a belt 54 with the pulley 41 on the feed-shaft 38, as is shown in Fig. 2.

In connection with the crank-shaft E two horizontally-located packing-fingers F and F' are employed, the packing-finger F being pivotally connected at or about its center with the upper crank-arm *e* of the shaft E, while the other and lower packing-finger F' is similarly connected with the lower crank-arm *e'*, as is shown particularly in Figs. 2 and 3. The rear ends of these packing-fingers are preferably pointed and are free and have play between the intermediate and the lower guard-fingers *d*, as is shown in Figs. 1 and 2. The forward end of the packing-finger F is pivotally connected with a link *f*, and the corresponding end of the lower packing-finger F' is connected with a link *f'*. The two links extend in direction of the right-hand side of the frame, where they are pivotally connected with forwardly-extending brackets 55, as is shown in Figs. 1 and 3.

The packing-fingers work across each other in opposite directions and return with a rearward thrust, having a spreading and packing action at both their forward and rearward movements, effectually distributing the bundles of grain within the confines of the guard-fingers *d*.

A transverse bar G is mounted in suitable bearings 56, extending down, preferably, from the bearings 11 of the axle A, as is shown best in Fig. 3, and a series of rearwardly-extending discharge-fingers 57 are carried rearwardly from the said bar, the fingers extending fully to the rear end of the frame, as is shown in Figs. 1, 2, and 4. The bar G is provided with a rearwardly-extending horizontal lug 58, formed upon the upper portion of sleeves 59, from which sleeves arms 60 extend downwardly, as is shown in Fig. 2. Springs 61 are attached to the arms 60 and to the under face of the side bars B of the frame, as is shown in Fig. 4, the said springs being adapted to carry the fingers 57 to their normal or horizontal position after they have discharged the bundles, as is shown particularly in Fig. 2. The bundles, however, must temporarily remain on the said fingers 57 and be supported thereby. To that end latches 62 are pivotally connected with the axle A, extending downward to an engagement with the said rearwardly-extending lugs 58, as illustrated in Figs. 2 and 3.

The platform B' is provided at its rear end upon its under face with projections 63,

which projections when the platform B' is in its full forward position engage with the latches 62 to release them from engagement with the projections 58 on the support for the discharging-fingers 57, permitting them to drop at such time.

In the operation of the machine the two drums 20 and 21 being out of engagement with the clutch-collar 19, the bundles may be fed into the hopper D, whereupon as the machine is drawn forward the feed-belts 46 will continue to carry the bundles, butt down, into the space encircled by the guard-fingers *d*, the butts of the bundles resting on the platform B', the packing-fingers F and F' meanwhile causing the bundles to close up within the confines of the said guard-fingers *d*. When a sufficient quantity of bundles has been thus packed within the guard-fingers *d*, the drum 20 is placed in engagement with the clutch-collar 19, thereby setting said drum to revolving, and the drum will wind the cable 29 thereon, and thus draw the platform B' up to the front portion of the machine. As the platform leaves that portion of the frame over which the guard-fingers *d* are located the butts of the bundles will rest upon the discharge-fingers 57, and when the platform B' has reached its full forward position the projections 63 from the platform will trip the latches 62 and permit the discharge-fingers 57 to drop to the ground at their rear ends, whereupon the bundles will conveniently slide from them as the machine advances. The drum 21 is then placed in engagement with the clutch-collar 19, the drum 20 being simultaneously moved out of contact with said collar, and as the drum 21 acts it will draw the platform rearward and cause it to again assume its normal position to further receive bundles from the hopper D.

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

1. In shocker attachments for harvesting-machines, a hopper adapted to receive the bundles, guard-fingers for the bundles, receiving them from the hopper, feed devices operating within the hopper, a platform mounted for sliding movement beneath the guard-fingers, means for moving the platform to and from the guard-fingers, discharging-fingers pivotally mounted beneath the platform, and latches for said fingers pivotally supported above them, acting to normally hold them in an upper position, and means for releasing the latches at the forward movement of the platform.

2. In shocker attachments for harvesting-machines, a hopper adapted to receive the bundles, guard-fingers for the bundles, receiving them from the hopper, feed devices operating within the hopper, a platform mounted for sliding movement beneath the guard-fingers, means for moving the plat-

form to and from the guard-fingers, discharge-fingers pivotally mounted beneath the platform, latches for the discharge-fingers, pivoted above them, means for releasing the said latches at the forward movement of the platform, packing-fingers operating collectively within the space encircled by the guard-fingers, and means for imparting a rotary movement to the packing-fingers, and also a thrusting movement.

3. In shocker attachments for harvesting-machines, a hopper adapted to receive the bundles, guard-fingers for the bundles, receiving them from the hopper, feed devices operating within the hopper, a platform mounted for sliding movement beneath the guard-fingers, means for moving the platform to and from the guard-fingers, discharge-fingers pivotally mounted beneath the platform, latches for the discharge-fingers pivoted above them, means for releasing the said latches at the forward movement of the platform, packing-fingers operating collectively within the space encircled by the guard-fingers, means for imparting a rotary movement to the packing-fingers, and also a thrusting movement, means for automatically returning the discharge-fingers to their normal position when their load is discharged, and a mounting for the packing-fingers, whereby they are both operated from the same shaft, one located above the other, and working in parallel planes.

4. In shocker attachments for harvesting-machines, a wheel-supported skeleton frame, a platform having sliding movement in the side members of the frame, a drive-shaft, bearings therefor, a driving connection between the drive-shaft and a supporting-wheel of the frame, a collar secured on the drive-shaft and having clutch-teeth in opposite faces, winding-drums loosely mounted on the said shaft, one at each side of the said clutch-collar, a shifting device controlling the movement of each drum, each drum having a clutch-face for engagement with a clutch-surface of the said clutch-collar, a cable leading from the forward end of the platform, forward guides for the cable carried by the frame, the said cable being returned rearward to the under side of one of the winding-drums and being secured thereto, a second cable leading from the forward portion of the platform rearward, roller-supports for the said second cable, which second cable is carried upward over the second drum, whereby when one drum is in engagement with the clutch-collar the platform is brought to its rear or normal position.

5. In shocker attachments for harvesting-

machines, a wheel-supported frame, a platform slidably mounted in the said frame and means for moving the said platform forward and rearward, a hopper adapted to receive bundles, located on the frame and extending over a portion of the platform, feed devices operating within the said hopper, guard-fingers extending over the platform from the outlet end of the hopper, a drive-shaft, means for operating the said drive-shaft from a supporting-wheel of the frame, a shaft driven from the drive-shaft and provided with two oppositely-directed crank-arms, one above the other, packing-fingers pivoted between their ends one to each of the said crank-arms, brackets extending forwardly from the frame at one side thereof, links pivotally connecting the said brackets with the forward ends of the said packing-fingers, and means for driving the feed devices in the hopper from the said drive-shaft.

6. In shocker attachments for harvesting-machines, a wheel-supported frame, a platform slidably mounted in the said frame and means for moving the said platform forward and rearward, a hopper adapted to receive bundles, located on the frame and extending over a portion of the platform, feed devices operating within the said hopper, guard-fingers extending over the platform from the outlet end of the hopper, a drive-shaft, means for operating the said drive-shaft from a supporting-wheel of the frame, a shaft driven from the drive-shaft and provided with two oppositely-directed crank-arms, one above the other, packing-fingers pivoted between their ends, one to each of said crank-arms, brackets extending forwardly from the frame at one side thereof, links pivotally connecting the said brackets with the forward ends of the said packing-fingers, means for driving the feeding devices in the hopper from the said drive-shaft, a tension-controlled bar located beneath the platform and independent thereof, discharging-fingers extending rearward from the said bar to the rear end portion of the frame, latches for the said bar, normally holding the said discharging-fingers in an upper horizontal position, and trips for the said latches, located at the rear end of the platform and operating on said latches to release them when said platform is in its forward position.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE ROBERT KELTNER.

Witnesses:

O. E. HELTON,
C. H. BLACK.