

J. E. GILSON.

HARVESTER.

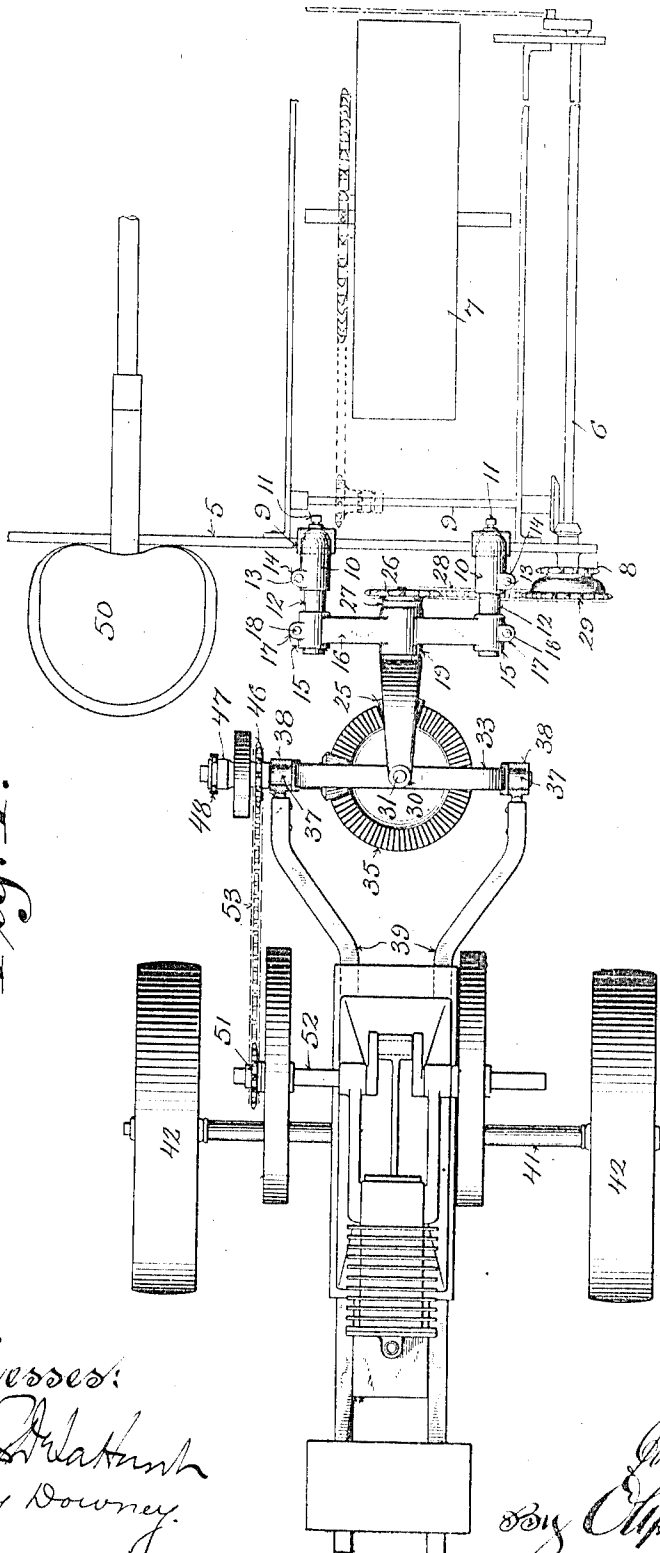
APPLICATION FILED SEPT. 24, 1909.

1,063,967.

Patented June 10, 1913.

3 SHEETS—SHEET 1.

Fig. 1.



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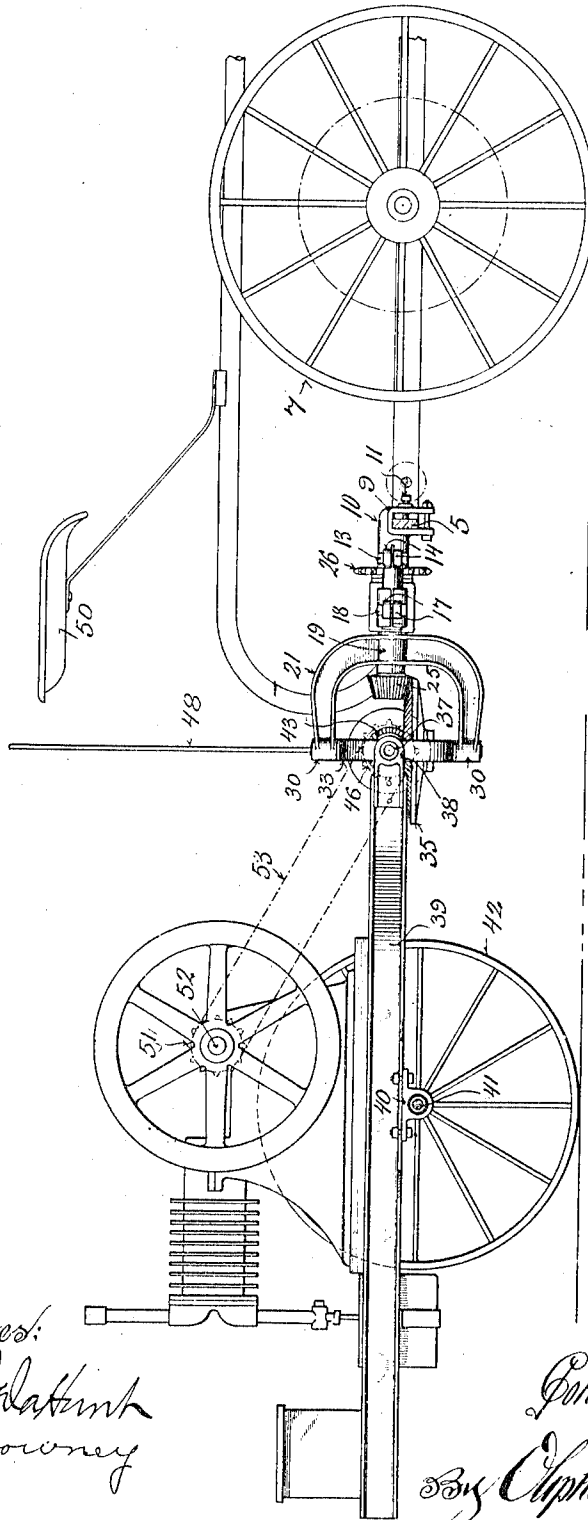
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3 SHEETS—SHEET 2.

Fig. 2.



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3 SHEETS-SHEET 3.

Fig. 4.

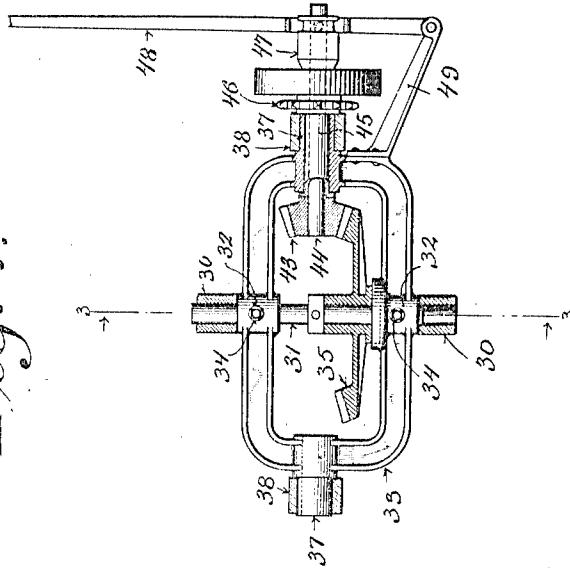
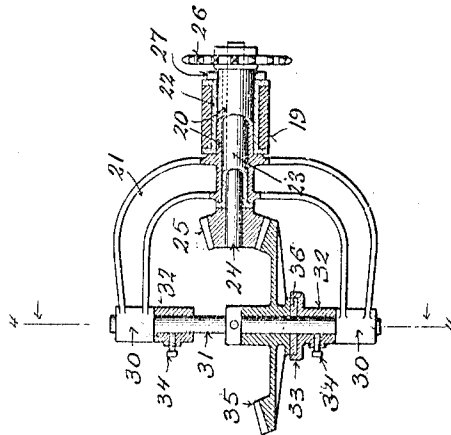


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN E. GILSON, OF PORT WASHINGTON, WISCONSIN, ASSIGNOR TO GILSON MANUFACTURING COMPANY, OF PORT WASHINGTON, WISCONSIN.

HARVESTER.

1,063,967.

Specification of Letters Patent.

Patented June 10, 1913.

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To all whom it may concern:

Be it known that I, JOHN E. GILSON, a citizen of the United States, and resident of Port Washington, in the county of Ozaukee and State of Wisconsin, have invented certain new and useful Improvements in Harvesters; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention consists in what is herein particularly set forth with reference to the accompanying drawings and pointed out in claims, its main object being to insure the operation of the machinery of an ordinary harvester when ground conditions are such that the main-wheel of the harvester cannot perform its function as a driver for said machinery; this object being attained by employing a motor (preferably a gasoline engine) of suitable power in clutch-controlled gear connection with the aforesaid machinery, the motor being mounted upon a truck that has universal-joint connection with the rear of the harvester to compensate for irregularities of surface over which said harvester and truck are traveled and thus prevent cramp in the gearing by which said motor and the harvester machinery are connected.

Figure 1 of the drawings represents a plan view of a trailer truck in universal-joint connection with the main frame of an ordinary harvester, a motor in the form of a gasoline engine mounted on the truck and clutch-controlled gearing connecting the crank-shafts of the motor and harvester; Fig. 2, a partly sectional elevation of what is shown in Fig. 1, as viewed from the side; Fig. 3, a partly sectional view of a detail of the mechanism indicated by line 3—3 in Fig. 4, and said Fig. 4, a similar view indicated by line 4—4 in Fig. 3.

Referring by numerals to the drawings 5 indicates the rear sill of the main frame, and 6 the crank-shaft of an ordinary harvester organized for operator-control of power transmission from its main traction-wheel 7 to said crank-shaft that is provided with a sprocket-wheel 8 for engagement with an elevator drive-chain, not shown.

As shown in Fig. 1, the power transmission gear comprises a sprocket-wheel fast on the main shaft constituting an axle rigid in the main wheel 7; a link-belt connecting

the sprocket-wheel with a similar wheel loose on a counter-shaft in bevel-gear connection with the crank-shaft 6, and a counter-shaft clutch engageable with the hub of the adjacent sprocket-wheel, the clutch being grooved for the engagement therewith of a spanner lever (not shown) convenient to the operator of the machine. However any suitable power transmission gear under operator control may be employed.

Embracing the sill 5 are clips 9 having split-thimble extensions 10 at right-angles thereto. The arms of each clip are bolted together under the sill 5 and a clamp-screw 11 is employed in connection with each clip to bind against a side of said sill. The thimble-extension 10 of each clip is tightened on a stem 12 by means of a bolt and nut, the bolt 13 being extended through ears 14 with which said thimble is provided. Clip ends 15 of a horizontal bar 16 are tightened on the stems 12 by means of bolts and nuts, each of said ends of the bar being provided with ears 17 through which the corresponding bolt 18 is passed, and from the foregoing it will be understood that the bar 16 may be adjusted on said stems to vary distance between said bar and the harvester frame, as occasion may require for the alinement of link-belt and sprocket-gear hereinafter more particularly specified.

The bar 16 is provided with a bushed center bearing 19 for a horizontal shank extension 20 of a vertically disposed bow 21, and a bore of the bow and its shank is also bushed, the respective anti-friction bushings 22, 23, being shown in Fig. 3. Extending through the bushing 23 is a spindle 24 fast at one end in a bevel-gear pinion 25 and at the other end in a sprocket-wheel 26, a spacing collar 27 being interposed between the hub of the sprocket-wheel and the bushing 22. A link-belt 28 connects the sprocket-wheel 26 with a similar wheel 29 that is in one piece with or otherwise rigidly connected to the sprocket-wheel 8 of the crank-shaft 6 aforesaid. The bow 21 and its shank 20 constitute a swivel, the ends of said bow being bearings 30 for an arbor 31 on which vertical center eyes 32 of a frame 33 are fastened by set-screws 34 or other suitable means the frame being shown within the confines of the aforesaid bow. Loose on the arbor 31 within the confines of the frame 33

is a bevel-gear crown-wheel 35 in mesh with the pinion 25 aforesaid, said wheel being seated on an anti-friction bearing-disk 36 for which said frame is provided with a socket. Horizontal center trunnions 37 of the frame 33 at right angles to the aforesaid arbor, engage bearings 38 attached to divergent ends of a pair of otherwise parallel preferably channel-iron beams 39, and other bearings 40, for an axle 41 of wheels 42 are provided in connection with the beams, these beams, the axle and wheels thereon constituting a truck to which further reference is made. In mesh with the crown-wheel 35 is another bevel-gear pinion 43 fast on a spindle 44 that has anti-friction bearing in a bushing 45 that extends through a bore in the frame 33 and one of its trunnions. Normally loose on the spindle 44 is a sprocket-wheel 46 combined with a clutch of any suitable construction, the sliding element 47 of said clutch on said spindle being controlled by a lever 48 fulcrumed in connection with an arm 49 of the frame 33 and arranged within convenient reach from the operator's seat 50 of the harvester. Mounted on the truck aforesaid is a motor in the form of a gasoline-engine having a sprocket-wheel 51 fast on its crank-shaft 52, and a link-belt 53 connects this sprocket-wheel with the one 46 aforesaid.

From the foregoing it will be readily understood that the frame 33 has free play on a vertical axis and the swivel-bow 21 has like play on a horizontal axis, the two combining to form a universal-joint between the harvester and motor-carrying truck to compensate for irregularities of surface over which said harvester and truck are traveled, and thus cramp in the gearing connecting the motor and the harvester machinery is avoided, the crown-wheel 25 being an idler connecting the pinions 43 and 25 to transmit motion from one to the other.

When ground conditions are such that the main-wheel of the harvester cannot perform its function as a driver for the machinery of said harvester, as frequently happens in various localities, the power transmission between said main wheel and crank-shaft or otherwise of said machinery is cut out and the sprocket-wheel 46 clutched in connection with the spindle 44. Now if the motor be started the power of same will be exerted to drive the harvester machinery through the medium of the transmission gearing above specified, it being understood that said motor is non-effective as a means for propulsion of the harvester and the motor truck.

I claim:

1. A harvester, a truck, a universal-joint in connection with the truck and adjustably connected to the harvester, a motor carried

by the truck, and clutch-controlled gearing connecting the motor with the harvester machinery through said joint by which compensation is had for irregularities of surface over which said harvester and truck are traveled and cramp in said gearing avoided.

2. A harvester, clips embracing a sill of same, stems in connection with the clips, a bar fast on the stems, a truck, a universal-joint connecting the truck and said bar, a motor carried by the truck, and clutch-controlled gearing connecting the motor with the harvester machinery through said joint by which compensation is had for irregularities of surface over which said harvester and truck are traveled and cramp in said gearing avoided.

3. A harvester, clips embracing a sill of same and having thimble-extensions, stems fast in the thimbles, a bar fast on the stems, a truck, a universal-joint connecting the truck and said bar, a motor carried by the truck, and clutch-controlled gearing connecting the motor with the harvester machinery through said joint by which compensation is had for irregularities of surface over which said harvester and truck are traveled and cramp in said gearing avoided.

4. A harvester, clips embracing a sill of same, stems in connection with the clips, a bar adjustably secured on the stems, a truck, a universal-joint connecting the truck and said bar, a motor carried by the truck, and clutch-controlled gearing connecting the motor with the harvester machinery through said joint by which compensation is had for irregularities of surface over which said harvester and truck are traveled and cramp in said gearing avoided.

5. A harvester, a bar supported in connection with a sill of the harvester-frame, a vertically disposed bow having a central horizontal shank for which the bar is provided with a bearing, a frame in axial play connection with the bow to therewith constitute a universal-joint, a truck with which the frame has trunnion connection, a motor carried by the truck, and clutch-controlled gearing connecting the motor with the harvester-machinery through said joint by which compensation is had for irregularities in the surface over which said harvester and truck are traveled and cramping in said gearing avoided.

6. A harvester, a bar supported in connection with a sill of the harvester frame and provided with a central bearing, a vertically disposed bow having a central tubular shank engaging said bearing, a spindle extending through the bow and its shank, a bevel-gear pinion fast on the spindle, link-belt and sprocket gear connecting said spindle with the harvester machinery, an arbor

having its bearings in the ends of said bow,
a frame fast on the arbor, a bevel gear
crown-wheel loose on said arbor and in mesh
with the aforesaid pinion, a truck with
5 which the frame has trunnion connection
at right-angles to the aforesaid arbor, a
spindle extending through said frame and
one of its trunnions, a bevel-gear pinion fast
on the latter spindle in mesh with the crown-
10 wheel, a motor carried by the truck, and
clutch-controlled link-belt and sprocket gear

connecting the motor with the last named
spindle.

In testimony that I claim the foregoing
I have hereunto set my hand at Port Wash- 15
ington in the county of Ozaukee and State
of Wisconsin in the presence of two wit-
nesses.

JOHN E. GILSON.

Witnesses:

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