G. W. McGILL.

TRACTION BINDER OR HEADER.

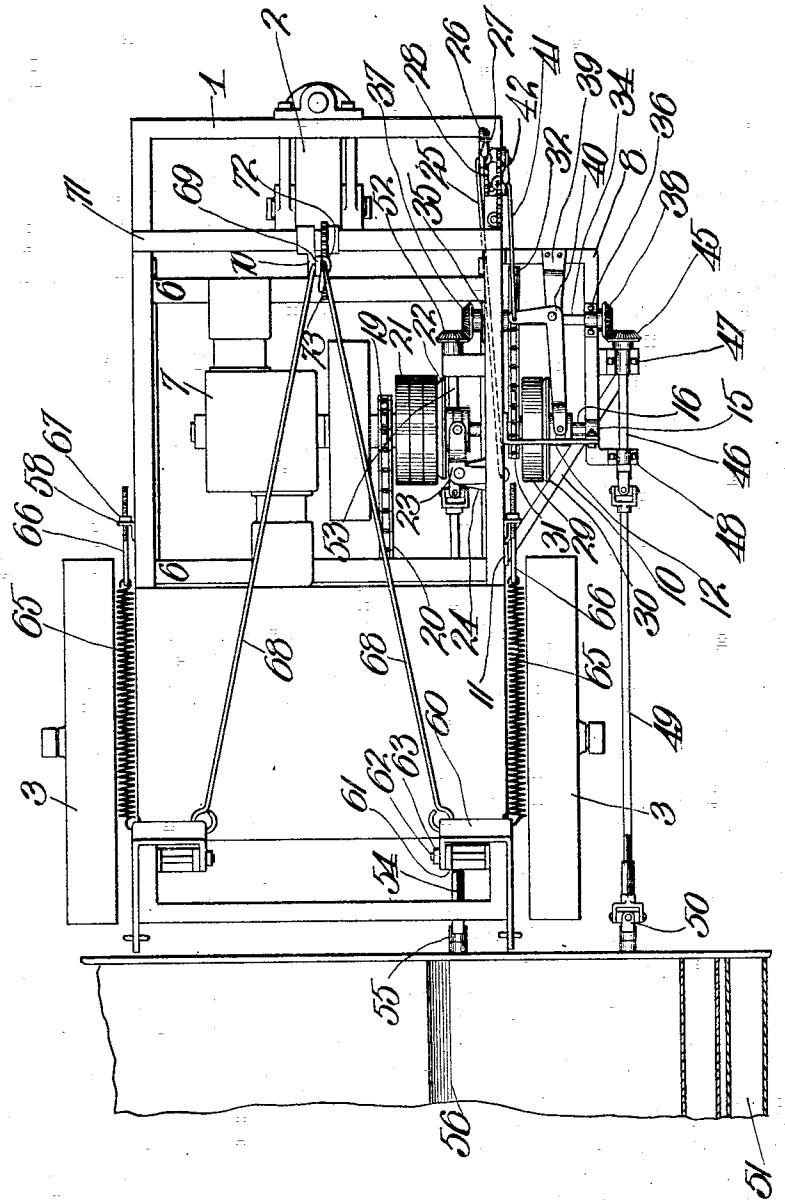
APPLICATION FILED OCT. 14, 1912.

**1,183,092.**

Patented May 16, 1916.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

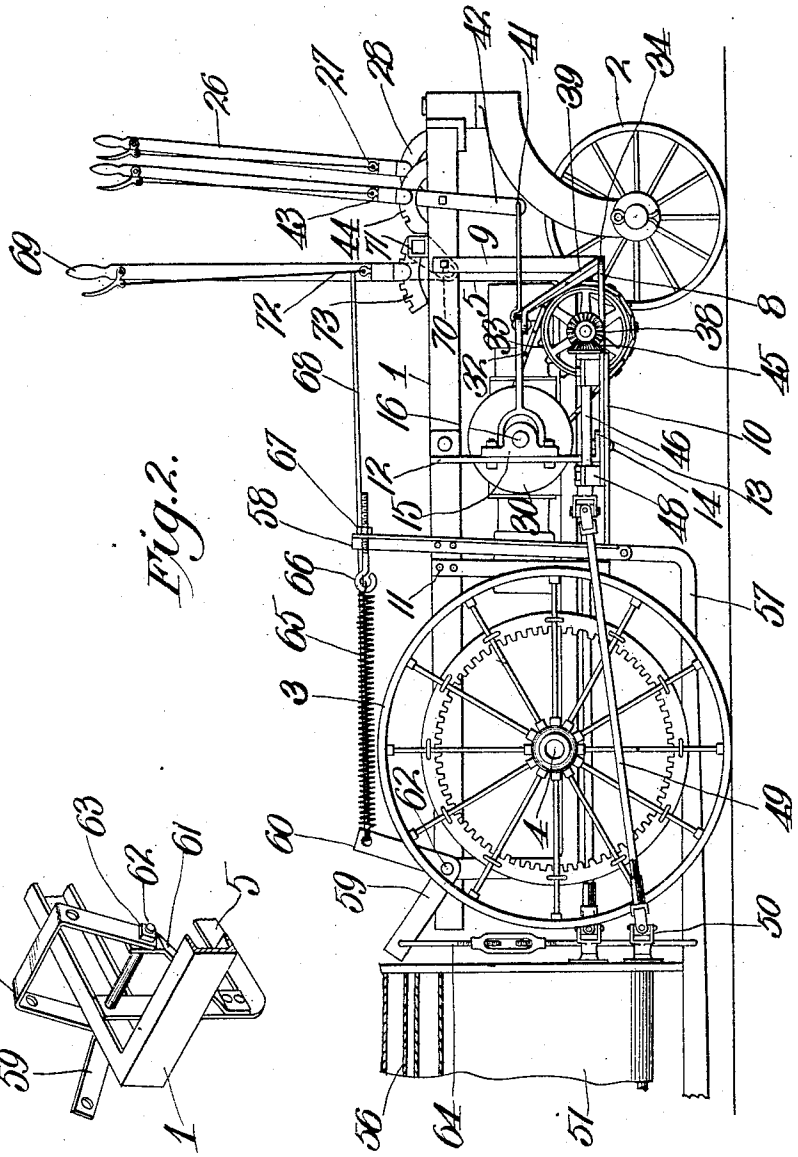


Fig. 3.



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# UNITED STATES PATENT OFFICE.

GEORGE W. McGILL, OF CLEVELAND, MISSOURI.

## TRACTION BINDER OR HEADER.

1,183,092. Specification of Letters Patent. Patented May 16, 1916.

Application filed October 14, 1912. Serial No. 725,660.

*To all whom it may concern:*

Be it known that I, GEORGE W. McGILL, a citizen of the United States, residing at Cleveland, in the county of Cass and State of Missouri, have invented certain new and useful Improvements in Traction Binders or Headers, of which the following is a specification.

This invention relates to traction binders or headers and has for its object to produce a combined machine wherein the binder or header structure is carried by and forward of the wheeled frame and wherein means are provided for effecting vertical adjustment of the binder structure.

A further object is to provide a combined machine of the character outlined in which the wheeled frame is driven by an engine and the engine is utilized to drive the operative mechanism of the binder or header.

Another object is to provide a machine of this character in which the weight of the binder or header structure is distributed fairly evenly on the wheeled frame in order that the machine may be readily guided and controlled.

With these general objects in view and others as hereinafter appear, the invention consists in certain novel and peculiar features of construction and organization as hereinafter described and claimed; and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1, is a top plan view of a traction machine and a part of a binder or header coupled thereto. Fig. 2, is a side elevation of the machine. Fig. 3, is a fragmentary perspective view of part of the machine.

In the said drawings, 1 is a rectangular frame mounted at its rear end upon a swiveled caster 2. 3 are supporting wheels for the front end, mounted upon a shaft 4 journaled in suitable bearings (not shown) secured to a pair of U-shaped frames 5 depending vertically from the sides of frame 1 and connecting the horizontal portions of said U-frames are transverse bars 6 upon which is mounted an engine 7.

At the left hand side of frame 1, is a frame constituting a support for certain parts hereinafter mentioned, said frame being constructed as follows:—8 is a Z-shaped bar arranged horizontally in a plane below that of frames 5, the rear arm of the Z-shaped bar being provided with an upwardly-projecting portion 9, bolted to the adjacent side of frame 1. Underlying and extending across bar 8, near its rear end, is an obliquely extending horizontal bar 10, terminating at its front end in an upwardly projecting portion 11 secured to the adjacent side of frame 1, and to brace the bar just described, an inverted-L shaped bracket 12, is secured at its upper end to the adjacent side of frame 1, and provided at its lower end with a foot 13 resting on bar 8.

In the vertical plane of the intersection of the last-named bar and bar 10, a bolt or rivet 14 extends through said foot 13 and said crossed bars 8 and 10, to secure them rigidly together. Secured to the bracket 12 is a bearing 15 for one end of the shaft 16 of the engine.

19 is a sprocket wheel secured on the engine shaft, and 20 a chain for transmitting motion from said sprocket wheel to mechanism (not shown) for imparting rotation to the wheels 3, said mechanism if desired, corresponding in all essential respects to the corresponding mechanism of my Patent #867828, of Oct. 7, 1907, to which reference is hereby made for an understanding thereof, as said mechanism bears no dependent relation to the means for supporting the header or binder or operating the same.

21 represents the drum of an ordinary reducing gear upon the engine shaft, and 22 a friction disk keyed to slide upon and turn with said shaft and adapted when in engagement with wheel 21 to give a direct drive to wheels 3 from the engine, and to effect engagement or disengagement of the wheel 21 and disk 22, a bell crank 23 is mounted upon a bracket 24 pendent from the adjacent side of frame 1, and is connected at one end, in the customary manner, to the hub of the disk 22, and at its opposite end by a link 25 with the lower end of a lever 26 mounted upon frame 1, and provided with the customary catch 27 for engagement with the sector 28 secured to said frame.

Mounted on shaft 16 outwardly of frame 1 is a clutch, consisting of a journaled wheel 29 and a disk 30, the latter being arranged to slide upon and rotate with said disk, and rigid with the wheel 29 is a sprocket wheel 31 connected by a chain 32 to a sprocket wheel 33, secured on a shaft 34, suitably journaled near its inner end, in a bearing 35, pendent from the adjacent side of frame 1,

and near its outer end in a bearing 36 mounted upon bar 8, and said shaft is equipped at its inner and outer ends with bevel gears 37 and 38.

Projecting upwardly and forwardly from bar 8 is a bracket 39, and pivoted thereon is a bell-crank lever 40, connected at one end in the customary manner to the hub of disk 30, for effecting engagement or disengagement between the same and wheel 29, the opposite end of lever 40 being connected by a link 41 to the lower end of a lever 42 pivoted upon frame 1, and provided with a catch 43 for engagement with the sector 44, carried by frame 1.

The bevel gear 38 meshes with the bevel gear 45 secured on the rear end of a shaft 46 journaled in bearings 47 and 48, mounted respectively upon the outer end of bar 10, and the front arm of the Z-shaped bar 8, and said shaft is connected by a shaft 49 and universal joints to the shaft 50, shown in this instance as the shaft of a binder or header, from which power is transmitted in a well-known manner to the lower canvas 51 and all operative parts except the upper canvas of the elevator.

Bevel gear 37 meshes with a bevel gear 52 on the rear end of a suitably-journaled longitudinally extending shaft 53, connected by a tumbling shaft 54 and universal joints to the shaft 55 of the upper canvas of the elevator of the header or binder, as shown.

From the foregoing it will be apparent that when the clutch members 29 and 30, are in interlocked relation, motion is transmitted to the elevator composed of canvases 51 and 56, and that such motion may be transmitted to the binder or header without regard to whether the machine is being propelled over the ground or not.

For effecting a draft connection between the binder or header and the traction machine, the sill bars 57 of the former extend rearwardly between wheels 3, and are pivoted to the lower ends of a pair of substantially vertical angle bars 58 secured to the sides of frame 1, it being noted that as the pivotal points of connection between the bars 57 and 58 are not alined with the front ends of the shafts 49 and 54, the latter are of the customary extensible type to accommodate vertical adjustment of the front end of the binder or header.

59 is a pair of bell cranks pivoted to the side bars or frame 1, near the front end of the same, and the rear arms of said bell cranks are provided with inwardly projecting inverted-L shaped arms 60, the lower ends of which fit against the inner sides of the substantially Z-shaped brackets or braces 61, secured to and projecting upwardly and inwardly from the front vertical arms of the U-shaped frames 5, as shown most clearly in Fig. 3, the pivots 62 for said bell crank levers extending through the sides of frame 1 and said brackets or braces 61, to give a long bearing to the said bell cranks to guard against twisting movement thereof, and the inner ends of the pivots are by preference, engaged by retaining nuts or collars 63.

The front arms of the bell crank levers 59 are connected by extensible tie-rods 64 to the sill bars 57, and the rear arms of said levers are connected by retractile springs 65 to threaded rods or bolts 66 extending through the upper ends of bars 58, and engaged at the rear sides of said bars by nuts 67, turning movement of which increases or diminishes the pull of the springs 65 on levers 59.

In practice the springs 65 are adapted to almost wholly support the binder or header at the desired distance above the ground, it being understood that the caster wheels sometimes used to help support the binder or header platform will be dispensed with.

68 is a pair of rods connecting levers 59 to a hand lever 69 mounted upon a bracket 70 carried by a cross bar 71 upon frame 1, and said lever is equipped with the usual catch mechanism 72 for engagement with a sector 73, and when it is desired to rock the binder or header by raising or lowering the rear ends of the sill bars 57, it can be effected by operation of the side lever 69, the retractive action of the springs 65 enabling the operator to raise the binder or header without undue exertion. To lower the binder or header it is necessary to simply trip the catch 72, as the weight of the machine will stretch the springs to some extent and if it stretches the springs too much the same can be additionally tensioned by turning nuts 67.

From the above description it will be apparent that I have produced a traction machine for carrying and propelling a binder or header mechanism, and also for effecting the operation of the movable parts thereof, and in which the power transmitting connections between the traction machine and the header or binder automatically accommodates vertical adjustment of the latter.

It will also be noted that by disposing the draft bars 57 at opposite sides of frame 1 and placing the shafts 49 and 54 at opposite sides of the left-hand carrying traction wheel, the weight of the binder or header is distributed, and is sustained by both wheels 3, so that no difficulty is encountered in guiding the machine in a straight line, which would be the case if one wheel 3 carried practically all the weight.

It is obvious that changes may be made in the detailed construction, arrangement and proportion of the parts without departing

from the principle of construction of the invention as defined by the appended claim.

I claim:

The combination with a binder or header having a pair of conveyers, of a wheeled tractor supporting the binder or header, embodying a pair of rear side wheels and adjustably supporting the binder or header, an engine on the tractor, a side frame carried by the tractor, longitudinal shafts geared together, one of said shafts being mounted on the side frame, extensible tumbling shafts respectively connecting the longitudinal shafts with the conveyers and located at opposite sides of one of said tractor wheels, a transverse shaft geared to the longitudinal shafts, a friction clutch for connecting the engine shaft and said transverse shaft, and a lever for operating the clutch.

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

GEORGE W. McGILL.

Witnesses:

FRANK A. JOHNSON,

J. B. STARK.

**Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."**