

(No Model.)

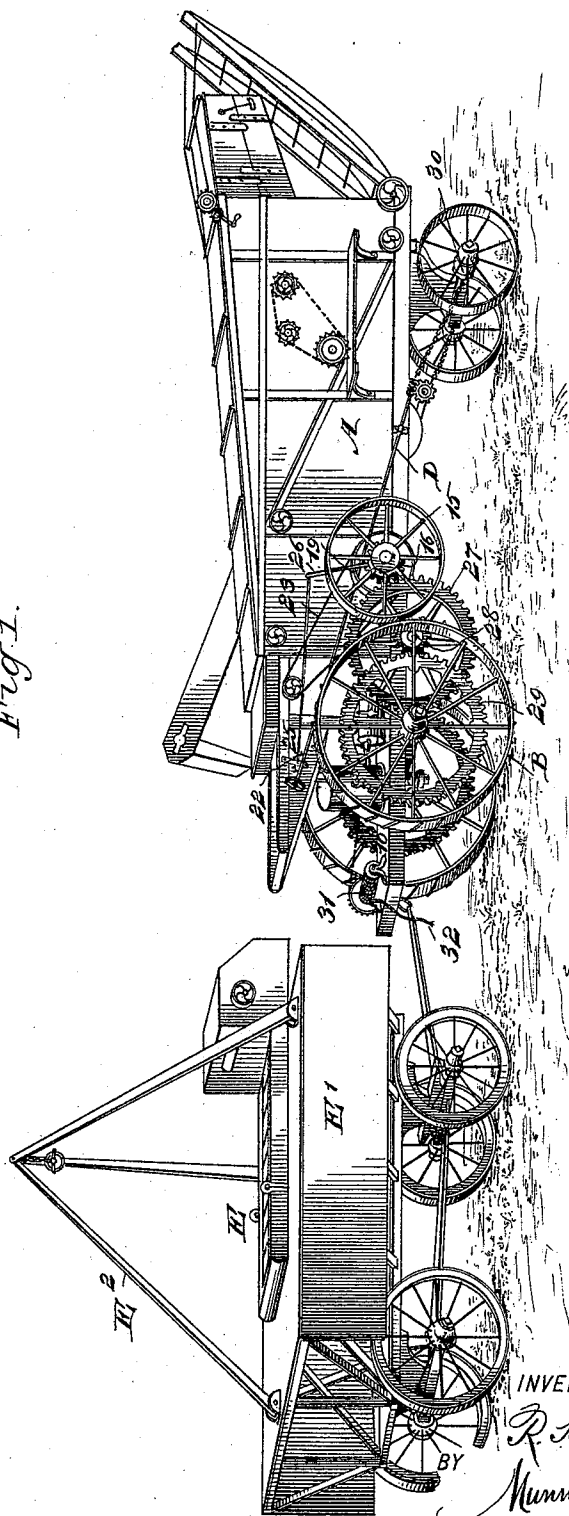
2 Sheets—Sheet 1.

R. KNIGHT.  
THRASHING MACHINE.

No. 529,623.

Patented Nov. 20, 1894.

Fig. 1.



WITNESSES:  
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*W. Sedgwick*

INVENTOR

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BY *Munn & Co*

ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

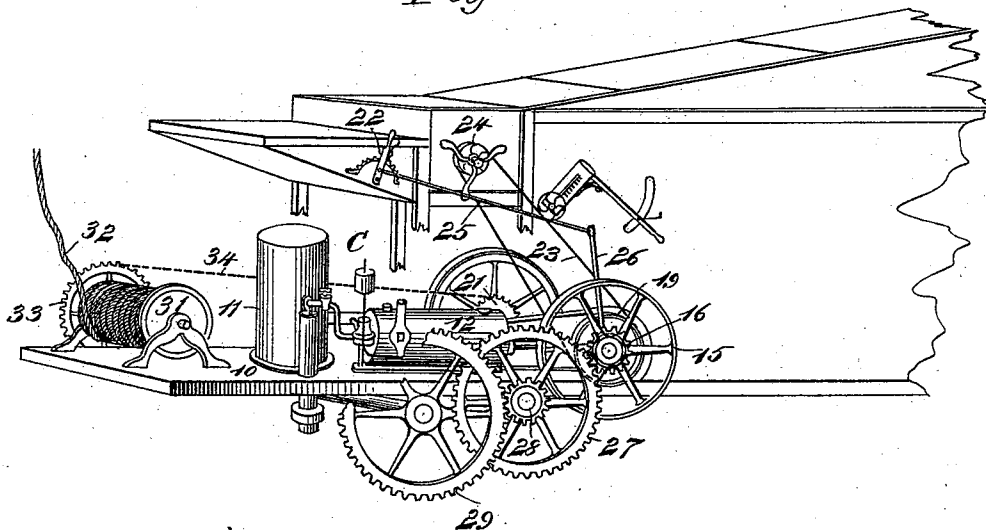
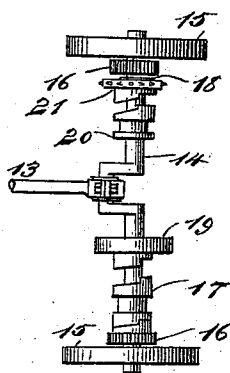


Fig. 3.



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# UNITED STATES PATENT OFFICE.

RILEY KNIGHT, OF MOSCOW, IDAHO.

## THRASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 529,623, dated November 20, 1894.

Application filed March 28, 1894. Serial No. 505,446. (No model.)

*To all whom it may concern:*

Be it known that I, RILEY KNIGHT, of Moscow, in the county of Latah and State of Idaho, have invented a new and useful Improvement in Thrashing-Machines, of which the following is a full, clear, and exact description.

My invention relates to an improvement in thrashing machines, and it has for its object to provide a means whereby an engine may be located upon the thrasher, and to provide a mechanism driven from the engine, whereby driving power may be applied to the operative parts of the thrashing machine, or to the wheels thereof to propel the machine, the shifting being accomplished in an expeditious and simple manner.

Another object of the invention is to provide the thrashing machine with a hoisting drum adapted for use in connection with the feeder of a derrick table, and likewise to provide a means whereby the derrick table may be coupled to the thrasher, and both of them moved through the agency of the engine and the connected driving gear, to any desired point.

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 figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the thrasher having the improvements applied thereto, likewise illustrating the coupling of a derrick table with the thrasher. Fig. 2 is a detail perspective view of one end of the thrashing machine, illustrating the application of an engine thereto, the hoisting drum and the driving gear; and Fig. 3 is a detail plan view of the driving shaft and its clutches.

In carrying out the invention, the thrashing machine A may be of any approved construction, but is provided over one of the axles, preferably the axle upon which the driving wheels B are mounted, with a table 10, the driving wheels B being the rear supporting wheels of the thrasher. The table 10 is directly under the receiving end of the

thrashing machine or practically beneath the cylinder, and the said table is adapted to carry an engine C, the engine being preferably a gasoline engine, or an engine of like type. In Fig. 2 a tank 11 is represented as located upon the table, adapted to feed the gasoline to the engine proper 12, and the piston 13 of the engine is in crank connection with a driving shaft 14 journaled at the forward end of the table. This driving shaft, as shown in Fig. 3, is provided with a balance wheel 15 at each of its ends, and near each balance wheel a gear 16 is loosely mounted upon the shaft, each of the gears being provided with a clutch face, and the clutch face of one of the gears is adapted to be engaged by a clutch 17 held to slide upon the drive shaft and to turn therewith, the opposite gear being adapted to be acted upon by a second clutch 18. The clutch 17 is a double clutch, its inner face being adapted to engage with a clutch face formed upon a driving pulley 19, the driving pulley being preferably located at one side of the center of the shaft. At the opposite side of the center of the shaft a third clutch 20, is located, adapted to operate and set in motion a spur wheel 21, loosely mounted on the shaft; but if in practice it is found desirable the clutch 20 may be dispensed with, and the clutch 18 constructed with a double face. The clutch 17 is manipulated through the medium of a lever 22 located at one side of the machine, the clutch 18 being operated by a similar lever at the opposite side of the machine, and another lever may be employed to operate the clutch 20 when that clutch is used.

The pulley 19 is connected by a belt 23 with a pulley 24 on the cylinder shaft of the machine, and the clutch 17 and lever 22 are connected preferably through the medium of links 25 and 26. The gears 16 are small, in fact are in the nature of pinions, and each is adapted to engage with a large gear 27, one of which is journaled at each side of the machine, preferably below the table 10, and each gear 27, carries a pinion 28, said pinions being adapted to mesh with gears 29, secured upon or in any manner attached to the combined driving and supporting wheels B. Thus it will be observed that when the clutch 17 is carried in driving engagement with the pulley

19, the thrashing mechanism will be set in motion, the machine meanwhile standing still, and that by throwing the clutch 17 out of engagement with the pulley 19 and into an engagement with the driving pinion 16, the opposite pinion being likewise placed in driving connection with the drive shaft, the rear wheels will be set in motion and the machine will travel over the ground to any desired point. The forward axle 30 of the machine is pivoted, and is operated through the medium of suitable steering gear D from the table 10 of the machine.

A hoisting drum 31, is mounted upon the rear portion of the table 10, as shown in both Figs. 1 and 2, the said drum being adapted to carry a cable 32, and it is provided with a gear 33, connected by a belt 34 with the sprocket wheel 21 located upon the driving shaft 14 and when the clutch 20, or whatever clutch is employed for the purpose, is brought in engagement with the sprocket wheel 21, said wheel will be made to revolve and impart a like movement to the drum.

The cable 32 carried by the drum is adapted to be carried to the forks of a high feeder E, that shown in the drawings being that known as the "Harrison" high feeder, the said high feeder and derrick being carried by a derrick table E', mounted upon wheels, and the said derrick table is preferably coupled or connected with the rear of the thrashing machine. Thus the feeder is under the control of the operator standing on the table, and the services of a man are dispensed with to operate said feeder, and when the machine is to be carried off the field or moved from one place to another, the derrick table is connected with the machine in the manner heretofore described and as shown in Fig. 1, the engine serving to propel both of them.

The derrick E<sup>2</sup> located upon the derrick table and shown in Fig. 1, may be of any approved pattern, as may be likewise the table itself. A machine provided with the attachment above set forth may be advantageously operated and readily transported from place to place, since the power used for driving the

machine can instantly be brought into requisition for propelling it and whatever wheeled body may be connected with it. Furthermore, by reason of the engine the high feeder is operated expeditiously and conveniently, and the engine may be removed when the thrasher is not needed, and used for other purposes. The engine and table are placed over the rear axle in order that the greatest possible weight may be brought to bear upon the combined driving and supporting wheels.

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

1. The combination, with the thrashing machine, of an engine carried thereby, a drive shaft journaled in the frame and operated by the said engine, independent clutch wheels loosely mounted on the said shaft, a clutch adapted to engage each of the clutch wheels and mounted to rotate with the shaft, a driving connection between one of the clutch wheels and the thrashing mechanism, a driving connection between the other clutch wheel and the supporting wheels of the thrashing machine, and means for shifting the clutches on the driving shaft to engage the clutch wheels thereon, substantially as described.

2. In a thrashing machine, the combination, with a table located over one of the axles, an engine carried by said table, a driving shaft driven by said engine, and a hoisting drum located upon the table, of a gear connection between the driving shaft and the supporting wheels of the machine, and also a driving connection between the driving shaft, the thrashing mechanism of the thrasher and the hoisting drum, and shifting devices whereby the power may be directed either to the thrashing mechanism, the supporting wheels or the hoisting drum, and a derrick table carrying a high feeder, the lifting forks of which are operated from the said hoisting drum, as and for the purpose specified.

RILEY KNIGHT.

Witnesses:

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