No. 754,985. PATENTED MAR. 22, 1904.

J. A. FLYTE.

LEVELING MECHANISM FOR VEHICLES.

APPLICATION FILED AUG. 6, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

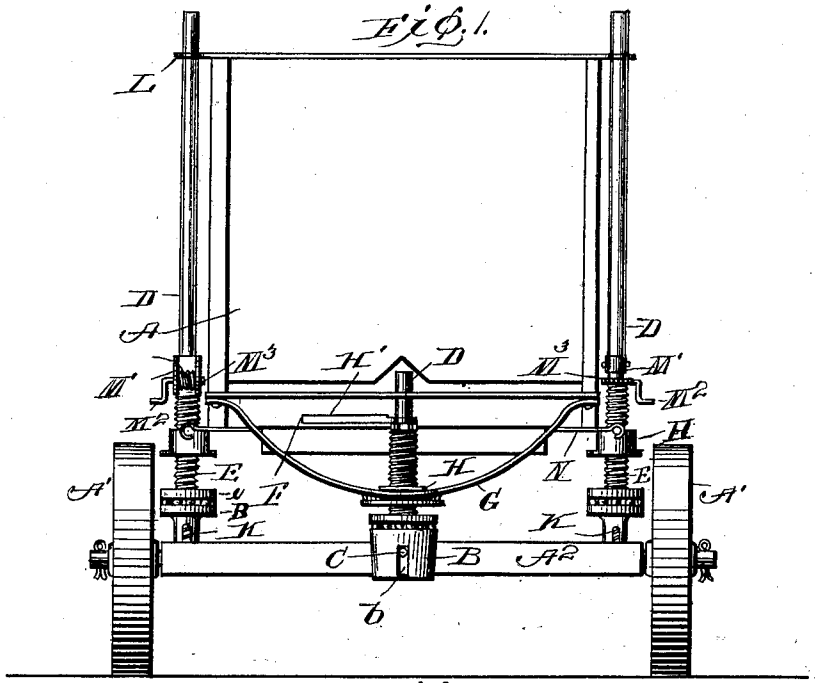


Fig. 2.

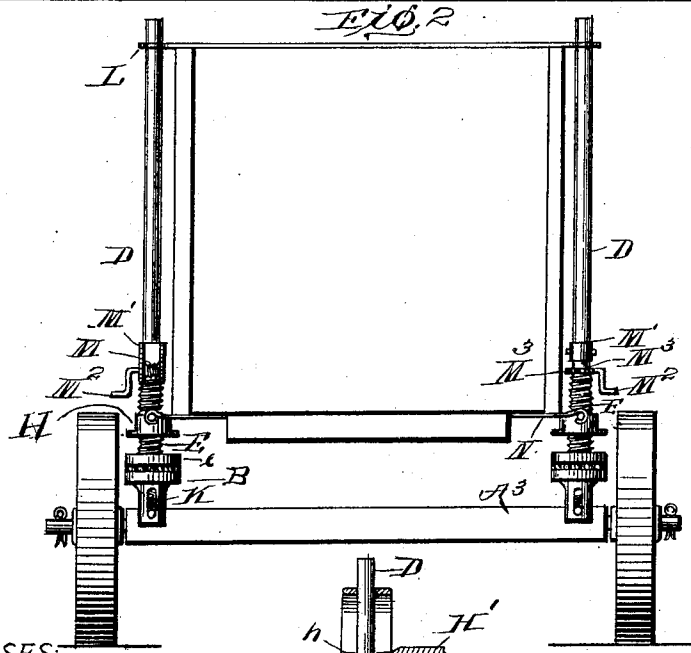


Fig. 4.

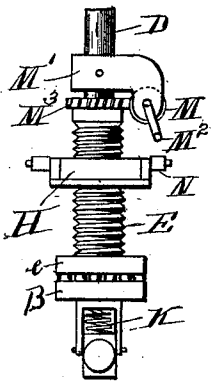
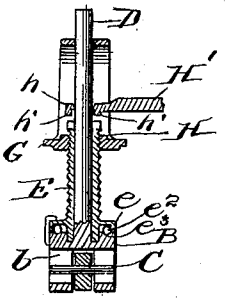


Fig. 3.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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LEVELING MECHANISM FOR VEHICLES.

APPLICATION FILED AUG. 6, 1903.

NO MODEL. 2 SHEETS—SHEET 2.

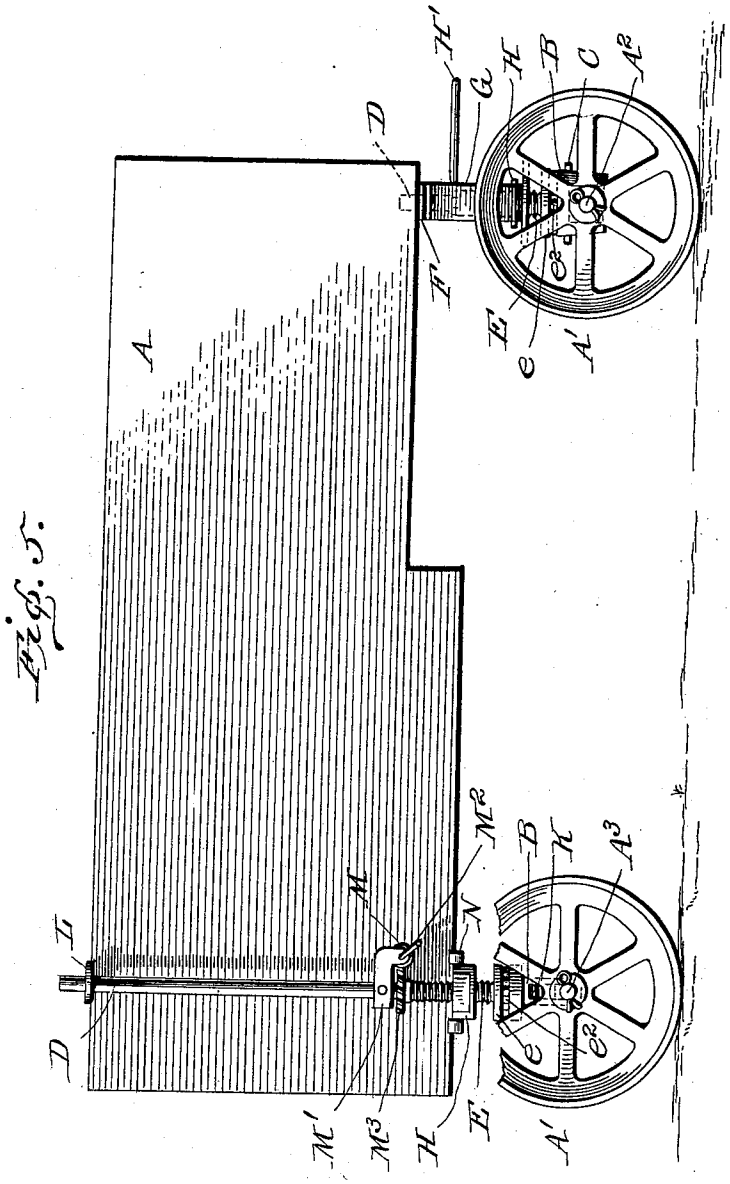


Fig. 5.

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No. 754,985. Patented March 22, 1904.

UNITED STATES PATENT OFFICE.

JOSEPH ABNER FLYTE, OF SIOUX FALLS, SOUTH DAKOTA.

LEVELING MECHANISM FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 754,985, dated March 22, 1904.

Application filed August 6, 1903. Serial No. 168,514. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH ABNER FLYTE, a citizen of the United States, residing at Sioux Falls, in the county of Minnehaha and State of South Dakota, have invented certain new and useful Improvements in Leveling Mechanism for Vehicles; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

This invention relates to improvements in leveling mechanism for vehicle-bodies, and especially for threshing or other agricultural machines liable to be located on rough and uneven ground, the object of the invention being to provide means whereby the bodies of such machines may be adjusted to a horizontal position even while the machine is in operation.

To this end the invention consists in certain novel details of construction and combinations and arrangements of parts, all as will be now described, and the particular features of novelty pointed out in the claims.

In the accompanying drawings, Figure 1 is a front elevation of a machine, showing the front leveling mechanism. Fig. 2 is a rear elevation showing the leveling mechanism at the back of the machine. Fig. 3 is a detail sectional view of the front leveling mechanism. Fig. 4 is a detail side elevation of one of the rear leveling mechanisms. Fig. 5 is a side elevation of the machine.

Referring to the drawings, the letter A indicates diagrammatically the body of a threshing or other agricultural machine mounted upon suitable running-gear embodying ground-wheels A′ and axles A^2 A^3. Straddling the front axle A^2 is a saddle or block B, capable of a lateral swing, but held from displacement by a bolt or pin C, rigid with the axle and passing through slots *b* in the ends of the block. Formed on or rigid with the saddle or block B is a post D, constituting the king-pin of the machine, and surrounding this post is a screw-threaded sleeve E, having an extended flange or base *e*, forming a bearing to rest on the top of the saddle or block B. To reduce friction between these parts, antifriction-balls e^3 are interposed, raceways e^3 for the balls being formed in the abutting faces of the saddle B and base *e*, as shown in Fig. 3.

The body of the machine is secured at the front to the usual bolster or sill F, preferably made in the form of a truss, with a downwardly-arched part G, and secured rigidly in the part G is a nut H, through which the screw-threaded sleeve E works.

When the sleeve E is turned, the bolster will be elevated or lowered and the front of the machine raised or depressed. Any desired or preferred means may be employed for turning the screw, that illustrated consisting of a lever or wrench H, having a head *h*, through which the saddle-post C passes, said head being provided with pins or projections *h*′, adapted to coöperate with recesses or notches e^2 in the end of the sleeve E.

To take up shocks and prevent injury to the machine while in transit, a spring K may be interposed between the axle and saddle B, such springs being shown only in connection with the rear axle.

The mechanism for effecting the adjustment at the rear of the machine is substantially a duplication of that employed at the front. One leveling mechanism is located at each end of the rear axle, and the posts D are extended up to the top of the machine, where they pass through guides L on the frame, but out of the way of the working parts of the machine.

A slightly-different means is employed for turning the sleeves to adjust the portions of the machine and consists of a worm M, carried in brackets M′, fast on the posts D, and turned by means of handles M^2. These worms mesh with gears M^3, secured rigidly to the top of the sleeves E, thereby providing both a means for turning and locking the sleeves in adjusted position.

The rear sill N, to which the body of the machine is secured, is preferably hinged at each end to the nuts H to prevent binding, no matter what the position of the parts may be.

Each of the saddles B is capable of a transverse swing on its axle, the pins working in the slots preventing displacement longitudi-

nally of the axle. Thus by operating one or the other of the rear leveling devices the body of the machine may be set at any desired angle with respect to the axles. In such transverse adjustment the front saddle pivots on the front axle; but all of the saddles preferably have a flat bearing on the axles and as a consequence tend to return to their normal position at right angles to the axles, as will be readily understood.

To adjust the level of the body longitudinally, the front or rear adjusting devices are operated to raise or lower either end of the body, as found necessary.

Each of the leveling devices is independent of the other and, being three in number, located in substantially triangular position with respect to each other, the body may be adjusted to a level when the running-gear rests on a surface inclined in any direction and no matter whether such surface is regular in its inclination or irregular, for any irregularity will be compensated for by the pivotal movements of the saddles and axles in the ground-wheels.

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

1. In a leveling device for vehicles, &c., the combination with the body and axles of a leveling mechanism mounted centrally of the front axle, and leveling mechanisms mounted one at each end of the rear axle said mechanisms being independent of each other; substantially as described.

2. In a leveling mechanism for vehicles, &c., the combination with the leveling mechanism pivotally mounted centrally of the front axle, of the two leveling mechanisms pivotally mounted at each end of the rear axle, said mechanisms being independent of each other; substantially as described.

3. In a leveling device for vehicles, &c., the combination with the saddle mounted on the axle, the posts carried thereby, the threaded sleeves surrounding said posts, the nuts through which the sleeves work, supports for the vehicle-body carried by said nuts, and means for turning said sleeves to elevate or lower the nuts, to adjust the level of the body; substantially as described.

4. In a leveling device for vehicles, &c., the combination with the saddle carried by the axle, of the post secured thereto, the screw-threaded sleeve surrounding said post, and the ball-bearing between said screw and saddle, the nut through which the screw works, and the support for the vehicle-body carried by the nut, and means for operating said screw; substantially as described.

5. In a leveling device for vehicles the combination, with the saddles carried by the rear axle, of the saddle-posts, the screw-threaded sleeves surrounding said posts, the nuts through which the sleeves work, the rear sill, pivotally connected at each end to said nuts, and means for operating said screws; substantially as described.

6. In a leveling device for vehicles, the combination with the saddle, of the saddle-posts, the screw-threaded sleeves surrounding said posts the nuts through which the sleeves work, the gear-wheels secured to the top of the sleeves, the brackets carried by the saddle-posts, and the worms journaled therein and meshing with the gears on the sleeves; substantially as described.

7. In a leveling device such as described, the combination with the running-gear embodying axles and ground-wheels and a body, of a leveling device pivotally mounted centrally of the front axle to swing transversely with the body and a leveling device pivotally mounted on the rear axle at each side of and connected with the body; substantially as described.

8. In a leveling device such as described, the combination with the running-gear embodying front and rear axles and ground-wheels, of the body pivotally connected with the front axle at a central point, and rear leveling devices interposed between the rear axle and each side of the body and each embodying a vertical member pivotally connected with the axle and working in guides held by the body and means for adjusting said body on each of the vertical members independently; substantially as described.

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Witnesses:
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