

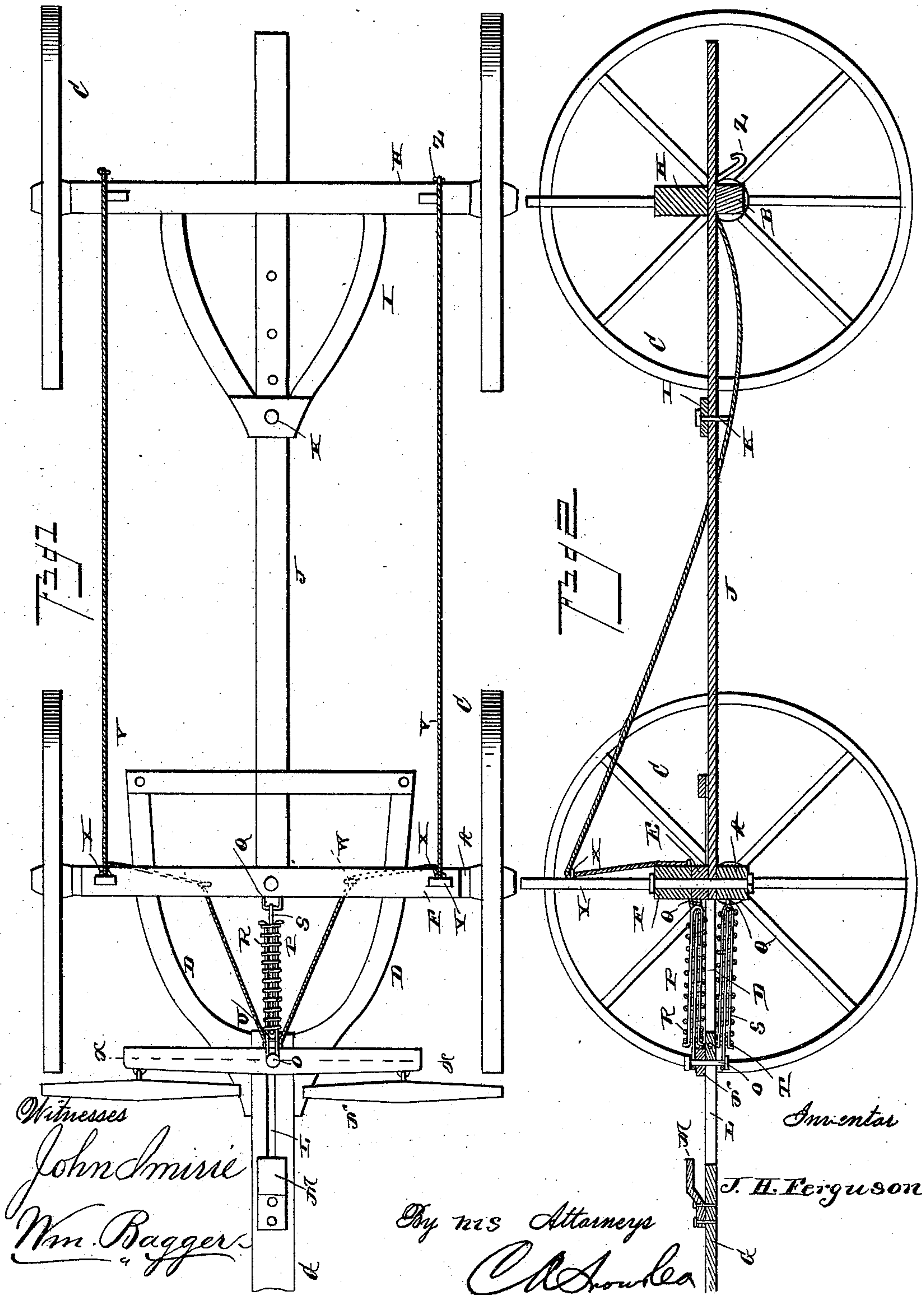
(No Model.)

2 Sheets—Sheet 1.

J. H. FERGUSON.
RUNNING GEAR FOR VEHICLES.

No. 408,604.

Patented Aug. 6, 1889.



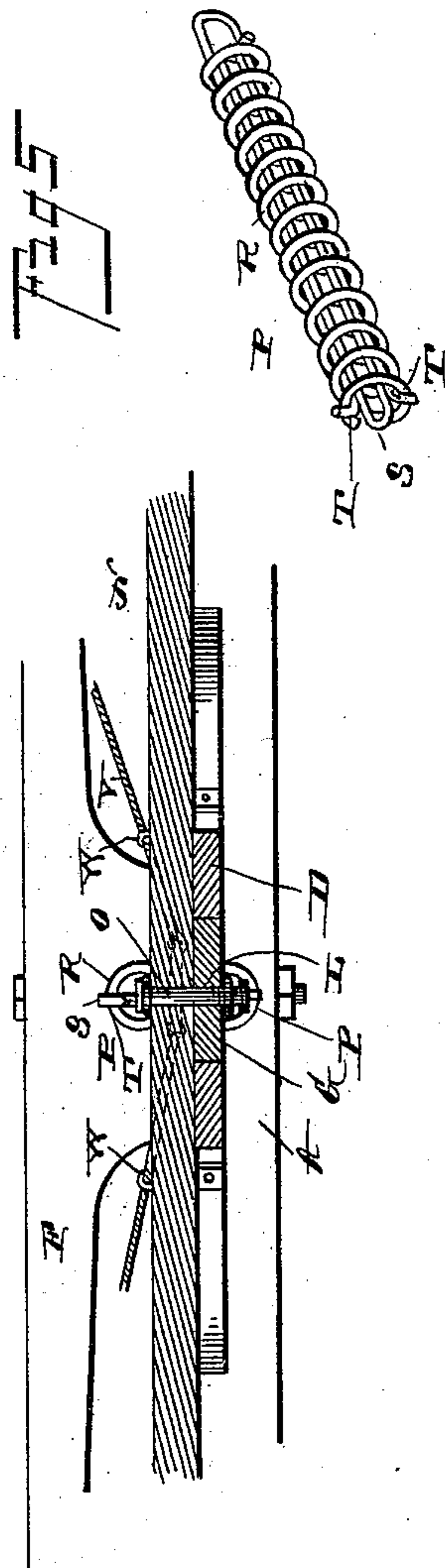
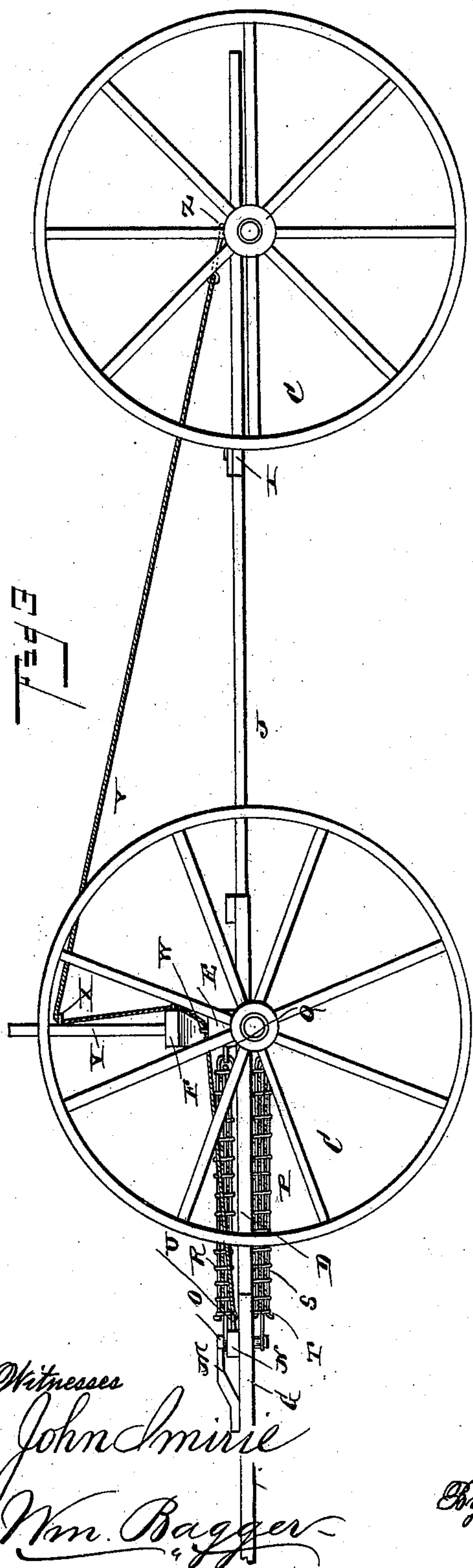
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Witnesses

John Smilie
Wm. Bagges-

Inventar

J. H. Ferguson

Byrns Attorneys

Attorneys
C. Snow & Co.

UNITED STATES PATENT OFFICE.

JOHN H. FERGUSON, OF KOKOMO, INDIANA.

RUNNING-GEAR FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 408,604, dated August 6, 1889.

Application filed April 12, 1889. Serial No. 307,044. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. FERGUSON, a citizen of the United States, residing at Kokomo, in the county of Howard and State of Indiana, have invented a new and useful Running-Gear for Vehicles, of which the following is a specification.

This invention relates to certain improvements in running-gear for vehicles; and it has for its object to provide an attachment which shall assist the team in starting the load, and by means of which the hind wheels of the wagon, when on an upgrade, may be temporarily locked, so as to prevent the wagon from pulling back upon the team when a stop is made for the purpose of resting the team.

The invention consists in the improved construction and arrangement of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a top view of the running-gear of a vehicle equipped with my invention. Fig. 2 is a longitudinal vertical sectional view of the same. Fig. 3 is a side view showing the application and operation of the wheel-locking device. Fig. 4 is a transverse sectional view taken on the line x of Fig. 1. Fig. 5 is a detail view of one of the springs used in connection with my invention.

A designates the front axle, and B the rear axle, of an ordinary running-gear, both of which are mounted upon wheels C C.

D D are the hounds, extending forwardly from the front axle.

E is the sand-board, F the bolster, and G the tongue, which is mounted pivotally between the front ends of the harness.

H designates the rear bolster, I the rear hounds, and J the reach, all of which are of ordinary construction, the rear end of the reach being connected adjustably with the rear axle and its attachments by means of the coupling-pin K. The rear end of the tongue is provided with a longitudinal vertical slot L, at the front end of which a stop or bracket M is firmly secured upon the upper side of the tongue.

N is the doubletree, which is mounted upon the upper side of the tongue, with which it

is connected by means of the hammer-bolt O, extending through the slots L, so as to permit the doubletree to slide longitudinally upon the tongue, its motion in a forward direction being limited by the length of the slot L, in conjunction with the stop or brackets M, which is arranged on the front end of said slot. The upper and lower ends of the hammer-bolt are connected by contractile springs P P with staples Q Q, attached, respectively, to the front axle and to the sand-board E. Said springs may consist of ordinary coiled springs R, coiled around the bails S S, which extend in opposite directions through the said spring-coils, and the ends of the legs of which are hooked or looped around the last coils of the said springs, as will be seen at T T in Fig. 5 of the drawings.

The ends of the bails may be readily hooked over or attached to the staples Q Q, and it will be seen that when this is done and draft is applied to the doubletree the springs will be compressed by the said bails being drawn in opposite directions, and the expansive force of said springs will be applied to assist in starting the load.

The rear side of the doubletree is provided with a staple U, to which are attached the ends of two wire ropes V V, which pass through suitable staples or guides W W, attached to the upper side of the sand-board E, underneath and out of the way of the bolster. From the guides W the said wire ropes pass in an upward direction through suitable guides X X, attached to the front wagon-stakes Y Y, and the free ends of the said ropes are provided with hooks Z Z. When on an upgrade it shall be desired to stop the wagon for the purpose of resting the team, the hooks Z Z may be applied to two of the spokes of the hind wheels. It will thus be seen that when the wagon backs the wire ropes will be strained and prevent the hind wheels from revolving, thereby locking the wagon without any strain upon the team. When the team is again started and the doubletree is drawn in a forward direction against the tension of the springs, there will be a direct draft through the said wire ropes upon the spokes of the hind wheels, which will effectually assist in

starting the load. As soon as the hind wheels begin to revolve, the hooks Z become disengaged from the spokes and drop down and out of the way, when they may be readily
5 thrown into the wagon-box until it shall be desired to use them again.

The operation and advantages of this invention will be readily understood from the foregoing description, taken in connection
10 with the drawings hereto annexed.

The construction is simple and inexpensive, and the invention may at a trifling expense be easily applied to old vehicles. When a heavy load is to be started, the team will have
15 no difficulty in pulling against the tension of the springs, and, the doubletree moving to a certain extent in a forward direction, the entire weight of the load does not have to be overcome all at once, and the load will consequently be more easily started than would be
20 the case if the wagon were not equipped with my improvement.

The device for locking the wheels is also simple and effective, as will be readily understood from the foregoing description.
25

I am aware that it is not new to connect the doubletree with the front axle of the running-gear by means of a spring, and to so arrange the doubletree that it may have a longitudinally-sliding motion with relation to the tongue; and in its broad sense such construction is disclaimed by me.
30

I am not aware that the upper and lower ends of the hammer-bolt, sliding longitudinally in a slot in the tongue and carrying the doubletree, have been connected by separate springs with the axle and sand-board, respectively. By this construction the draft is equalized upon the upper and lower ends of the hammer-bolt and a novel and efficient device is produced.
40

Having thus described my invention, I claim—

1. The combination of the tongue having a longitudinal slot at its rear end, the stop or bracket at the front end of said slot, the longitudinally-sliding doubletree, the hammer-bolt extending through the doubletree and through the slot in the tongue, and springs
50 connecting the upper and lower ends of the hammer-bolt with the front axle and sand-board, respectively, and serving to draw the

hammer-bolt and doubletree in a rearward direction, substantially as and for the purpose set forth. 55

2. The combination of the front axle and sand-board, the staples secured to the front sides of the same, the hounds, the tongue mounted pivotally between the front ends of the latter and having a longitudinal slot at its rear end, a stop or bracket at the front end of said slot, the doubletree connected to the tongue by means of the hammer-bolt arranged to slide in the longitudinal slot on the tongue, and the spring-connections between the upper and lower ends of the hammer-bolt and the staples of the front axle and sand-board, said spring-connections comprising the bails arranged in pairs, connected, respectively, to the said staples and to the upper and lower ends of the hammer-bolt, and the springs coiled around the said base and confined by the hooked ends of the legs of the latter, substantially as and for the purpose set forth. 65

3. The combination of the longitudinally-sliding doubletree, springs arranged to force the latter in a rearward direction, and wire ropes attached to the rear side of the doubletree, passing through suitably arranged guides, and provided with hooks at their free ends, substantially as and for the purpose set forth. 70

4. The combination of the tongue having a longitudinal slot at its rear end, the hammer-bolt moving in said slot and carrying the doubletree, springs connecting the upper and lower ends of the hammer-bolt with the front axle and sand-board, respectively, and serving to draw the said hammer-bolt and doubletree in a rearward direction, a staple attached to the rear side of the doubletree, and wire ropes attached to the said staple, passing through suitable guides upon the sand-board and front wagon-stakes, and provided with hooks at their free ends adapted to engage the spokes of the hind wheels, substantially as and for the purpose hereinbefore specified. 85

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN H. FERGUSON.

Witnesses:

MICHAEL J. CLANCY,
W. F. MANN.