

No. 757,959.

PATENTED APR. 19, 1904.

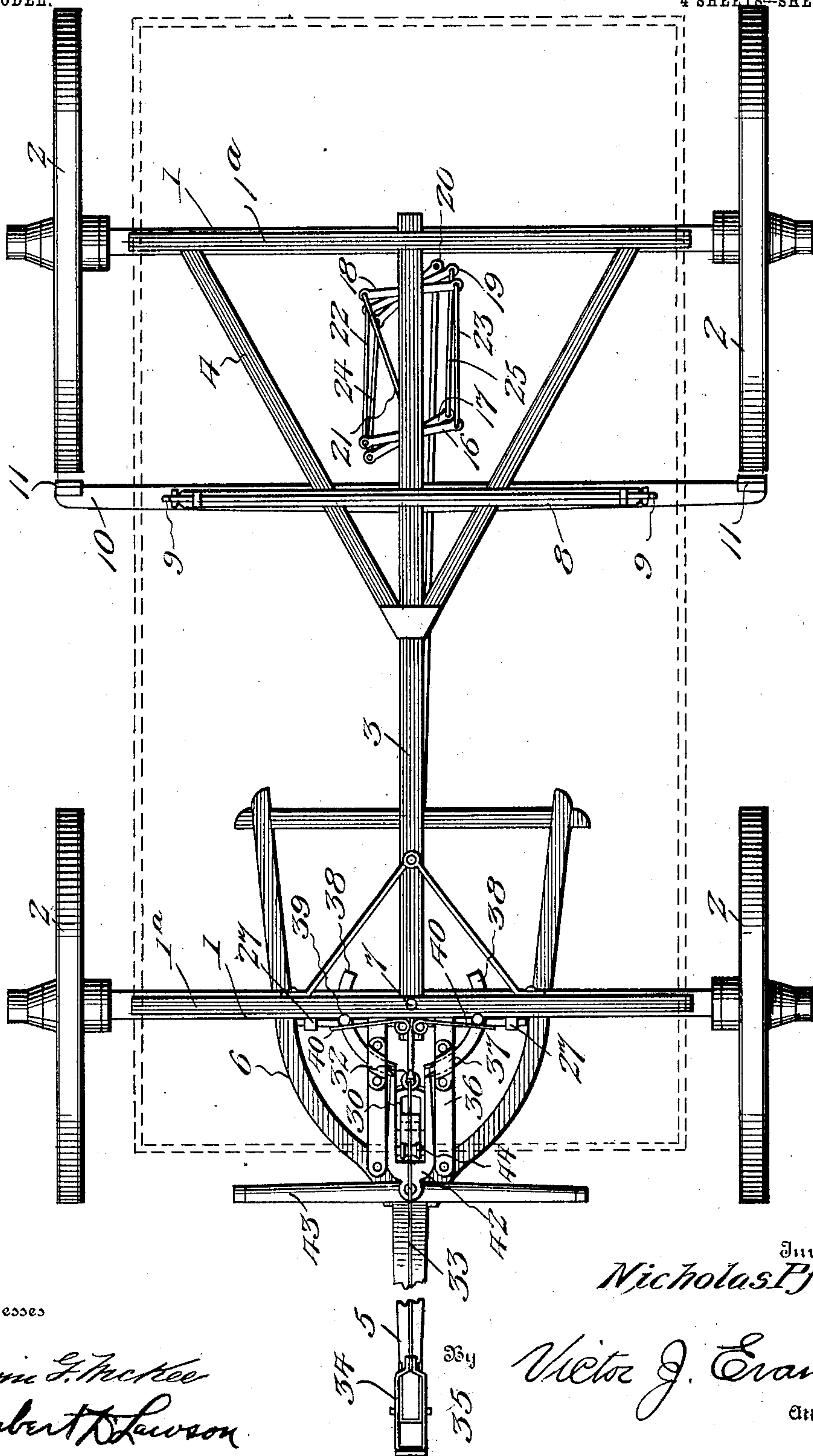
N. PFEFFER.
WAGON BRAKE.

APPLICATION FILED NOV. 11, 1903.

NO MODEL.

4 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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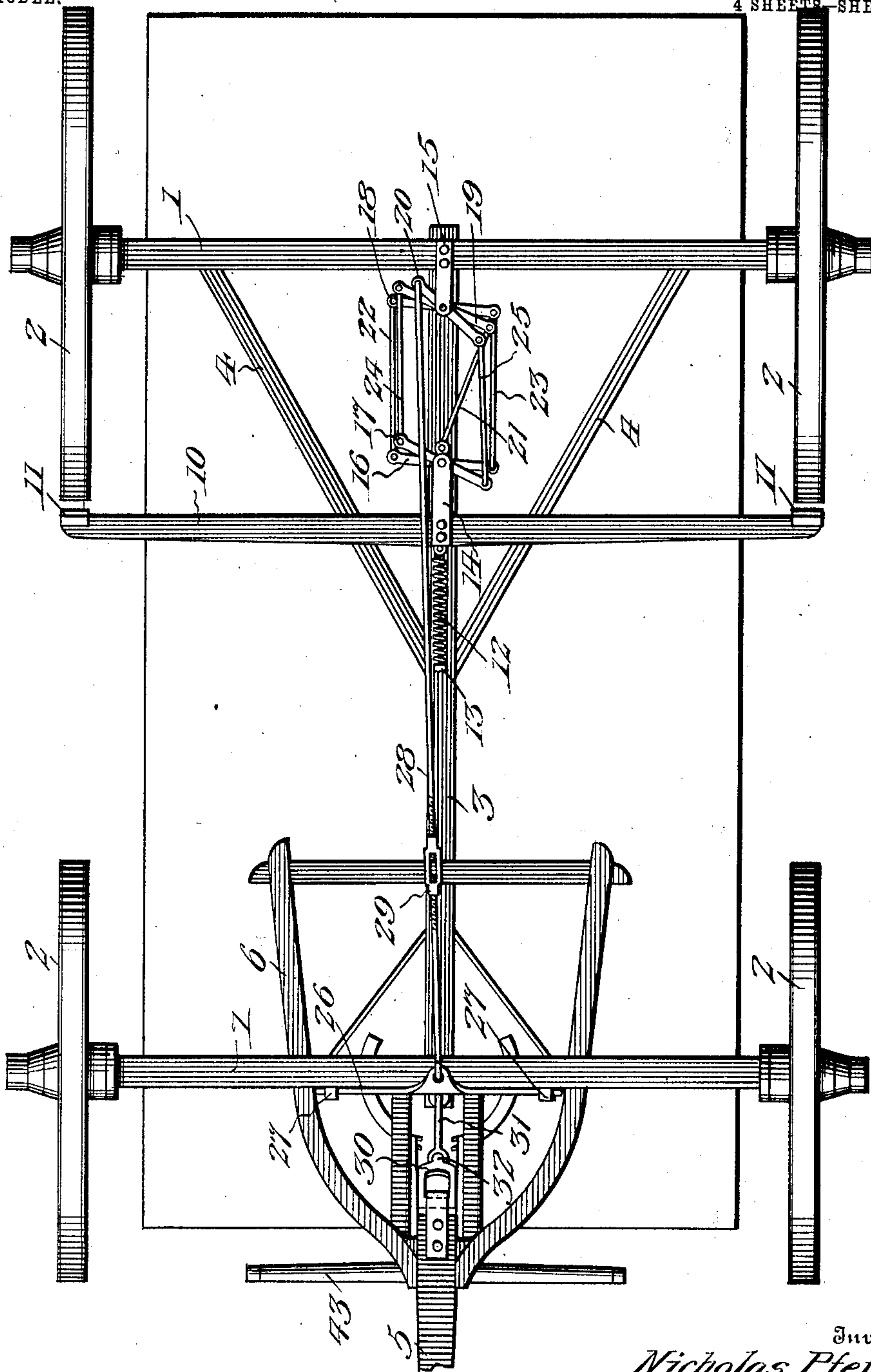
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NO MODEL.

4 SHEETS—SHEET 2.

Fig. 2.



Witnesses

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4 SHEETS SHEET 4.

Fig. 5.

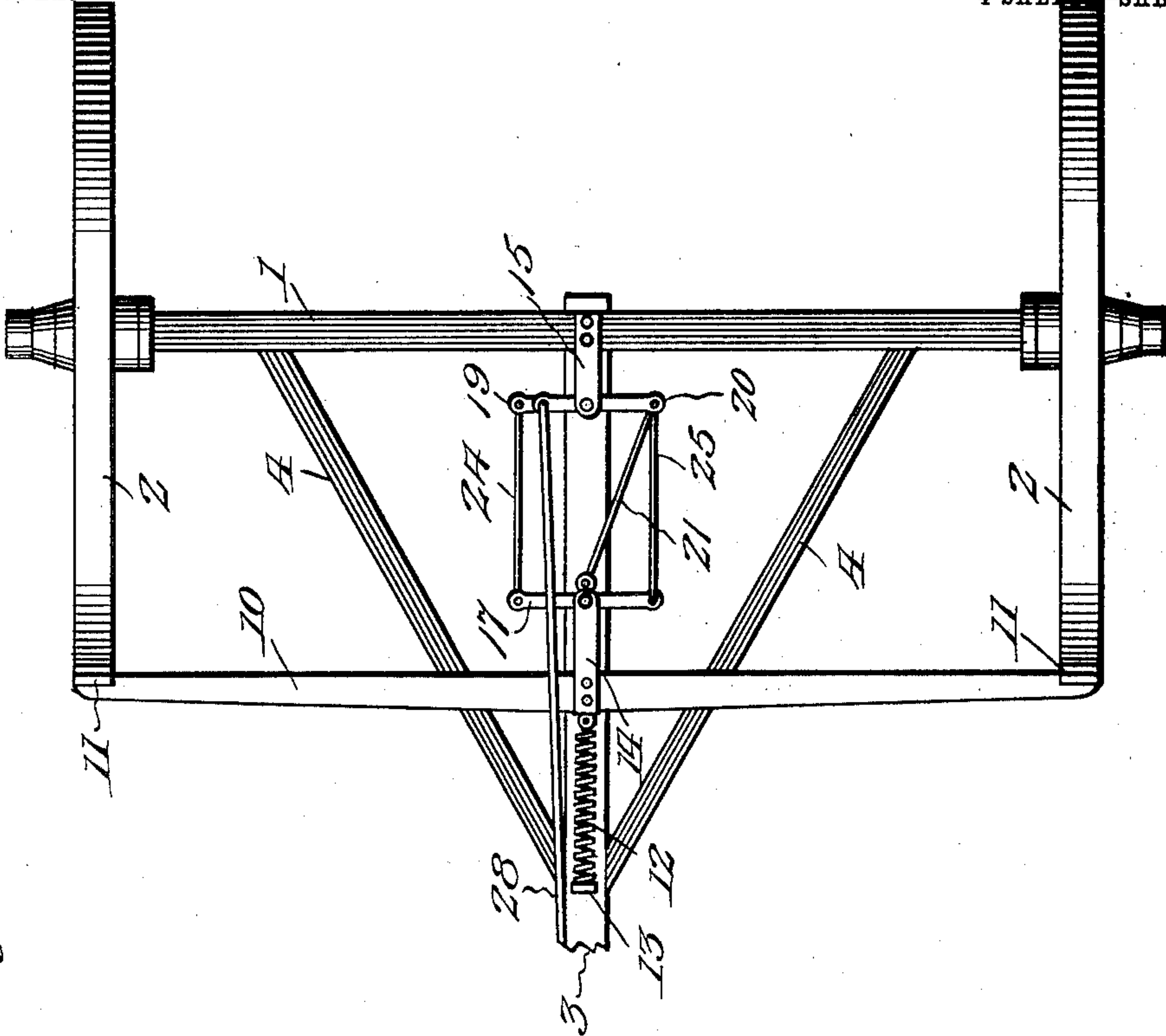
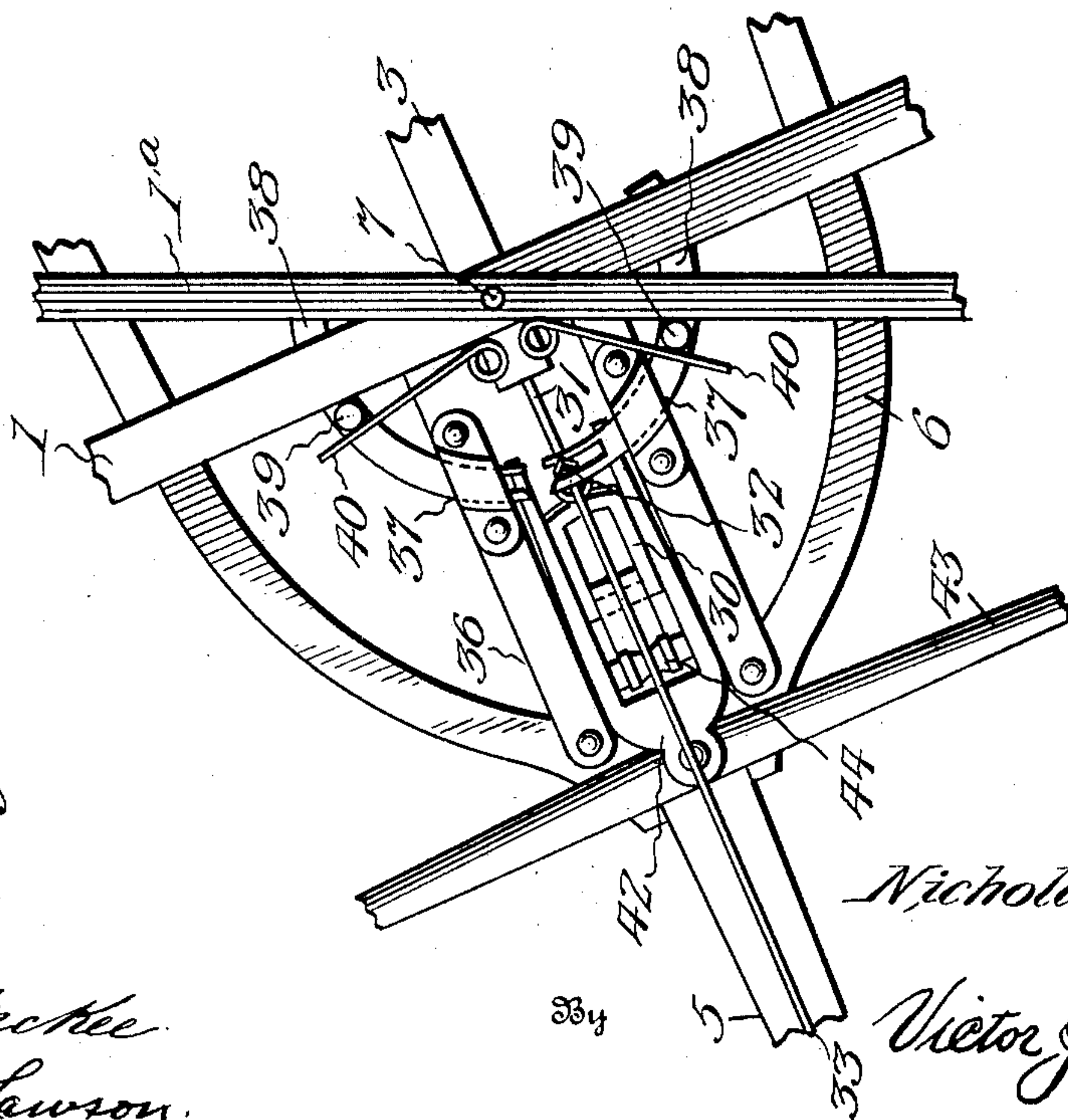


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

NICHOLAS PFEFFER, OF RIPLEY, OHIO.

WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 757,959, dated April 19, 1904.

Application filed November 11, 1903. Serial No. 180,726. (No model.)

To all whom it may concern:

Be it known that I, NICHOLAS PFEFFER, a citizen of the United States, residing at Ripley, in the county of Brown and State of Ohio, have
5 invented new and useful Improvements in Wagon-Brakes, of which the following is a specification.

My invention relates to new and useful improvements in wagon-brakes; and its object is
10 to provide mechanism whereby brakes on a wagon or other vehicle will be automatically applied to the wheels when the horses are backed or when the vehicle is traveling down-hill.

A further object is to provide means whereby a slight movement of the operating-loop upon the tongue of the vehicle will be multiplied to such a degree as to impart considerable movement of the brake-shoes.
15

A further object is to employ means whereby the application of the brakes may be prevented while the vehicle is being moved backward.
20

Another object is to provide locking means
25 of novel construction having a releasing device adapted to be operated by the driver.

With the above and other objects in view the invention consists in providing a brake-beam having shoes thereon, and these shoes
30 are held normally removed from the wheels by means of a spring connected to the beam. A multiplicity of connected levers is located adjacent and connected to the brake-beam, and these levers are adapted to be set in motion
35 by means of a loop which is pivoted to the outer end of the tongue of the vehicle and which is connected to the levers by suitable devices provided for that purpose. Spring-pressed jaws are mounted upon the gear of the vehicle
40 adjacent the fifth-wheel, and these jaws are preferably concentric with the king-bolt of the vehicle. The jaws are arranged at opposite sides of a lug which extends upward from the connecting means secured to the levers and
45 loop, and when the front axle of the vehicle is turned this lug is moved into either one of the jaws and locks the levers of the brake against movement. A fork is located under the jaws and is connected to the whiffletree, and when

said whiffletree is depressed the fork raises the
50 jaws and releases them from the lug.

The invention also consists in the further novel construction and combination of parts hereinafter more fully described and claimed, and illustrated in the accompanying drawings,
55 showing the preferred form of my invention, and in which—

Figure 1 is a plan view of the running-gear of a vehicle having my improved brake thereon and showing in dotted lines the position
60 of the wagon-body. Fig. 2 is a bottom plan view of a wagon having my improved brake applied thereto. Fig. 3 is a central longitudinal section through the wagon and brake mechanism. Fig. 4 is an enlarged plan view
65 of the locking mechanism of the brake, one of the jaws being shown in engagement with the locking-lug. Fig. 5 is a plan view of the multiplying-levers in the positions assumed by them when the brake-shoes are applied, and
70 Fig. 6 is a perspective view of the operating-loop of the tongue.

Referring to the figures by numerals of reference, 11 are axles having wheels 2 mounted thereon, and the bolsters 1^a of these axles are
75 connected by a reach 3, having hounds 4 extending therefrom. The front axle 1 has a tongue-hook 5 projecting therefrom, said tongue being secured to the axle by means of front hounds or braces 6. A king-bolt 7
80 forms the pivot of the front axle. A cross-beam 8 is secured to the reach 3 and the hounds 4 and has hooked arms 9 depending from the ends thereof and engaging and supporting a brake-beam 10, the ends of which
85 are provided with shoes 11, adapted to bear upon the rear wheels of the vehicle. The center of the beam is connected, by means of a coiled spring 12, with a lug 13, which depends from the reach 3 at a point in front of
90 the brake-beam. This spring 12 serves to hold the brake-shoes normally removed from the wheels. A bracket 14 extends rearwardly from the center of the brake-beam, and a similar bracket 15 is secured to the rear axle
95 1. Arranged in each of these brackets is a series of centrally-fulcrumed levers (numbered 16, 17, and 18, 19, and 20.) The lever 18 is

connected at one end to the bracket 14 by means of a rod 21, and the other end of this lever is connected by a rod 22 with the opposite end of lever 16. The other end of lever 5 16 is connected by a rod 23 with lever 19, and a rod 24 connects the other end of lever 19 with one end of lever 17. This lever is connected, by means of a rod 25, with the lower lever 20. A substantially V-shaped yoke 26 10 is pivoted at its ends to the front axle 1, as shown at 27, and the lower end of this yoke is connected to one end of a hooked rod 28, the other end of which engages one end of the lever 20. A turnbuckle 29 is preferably 15 arranged within rod 28, which is to adjust the length thereof. A loop 30 is pivoted to the rear end of the tongue 5 and is connected, by means of a rod 31, with the lower end of yoke 26. This loop has an upwardly-extending lug 20 32, which is engaged by the rod 31 and also by a flexible rod 33, which extends forward and is pivoted to the upper end of a loop 34. This loop embraces the end of the tongue 5, and the lower end 35 thereof is adapted to be 25 secured to the neck-yoke of a harness. Supporting-plates 36 are secured upon the front hounds 6 and to the front axle 1, and these plates have guide-brackets 37 thereon, in which are slidably mounted curved jaws 38. 30 These jaws are concentric with the king-bolt 7 and are slidably mounted in the front axle. Pins 39 project upward from the jaws and in front of the bolster 1^a, and these pins are held normally pressed against said bolster by 35 means of springs 40, which are secured to the front end of the reach 3 and in front of the axle 1 and bolster 1^a. A bracket 41 extends upward from the tongue 5 at its inner end, and pivoted in this bracket is a fork 42, the 40 front end of which is secured to a whiffletree 43, while the tines thereof extend downward under the inner or forked ends of the jaws 38. A roller 44 is preferably journaled within the bracket 41 and between the tines of the 45 fork 42, and this roller forms a bearing for rod 33.

The horses are harnessed to the loop 34 and the whiffletree 42, and when they are drawing the wagon forward it will be understood 50 that the brake-shoes 11 will be removed from the wheels. When, however, the wagon is going downhill or the horses are backed, the pull upon the lower end of the loop 34 will cause said loop to swing upon its pivot-pin 45 55 and to slide downward on said pin, this movement being permitted in view of the slots 46, which are formed within the sides of the loop. Longitudinal movement is thus imparted to the rod 33, and the loop 30 and its lug 32 are 60 swung upward, thereby causing the rod 31 to swing yoke 26 forward. Rod 28 therefore pulls upon the lever 20, and motion is transmitted from this lever to the other levers 65 finally from the lever 18 to the bracket 14

through rod 21. The beam 10 will thus be drawn backward and apply the shoes 11 to the wheels 2, at the same time tensioning the spring 12. When the backward pressure upon the loop 34 is removed, the spring 12 will return all the 70 parts to their normal positions. When the front axle of the vehicle is turned, the lug 32, which is normally in position between the inner forked ends of jaws 38, moves laterally 75 into one or the other of these jaws, and therefore backward pressure upon the loop 34 will not affect the brake for the reason that the parts thereof are locked against movement. I have shown this position of the locking de- 80 vices in Fig. 4. Should it be desired to apply the brake while the front axle is turned, it is merely necessary to press downward on the whiffletree 43. The inner ends of the fork 42 85 are thus swung upward against the jaws 38 and force them upward within the brackets 37 and out of the path of the lug 32. Subsequent to the operation of locking the lug within either of the jaws 38 said lug can be detached from the jaws in the same manner—to wit, by press- 90 ing downward on the whiffletree 43. It will be seen that the springs 40 serve to hold the jaws normally removed from the lug. By pressing either of the jaws forward by means of its pin 39, so as to engage the lug 32, the 95 operation of the brake at any time is prevented, and said brake can only again be operated by first releasing the jaw from the lug. By arranging the levers 16 to 20 in the manner shown and described the leverage is greatly 100 multiplied and the shoes 11 are drawn firmly into position upon the wheels thereby. The arms 9 are pivoted to the cross-beam 8, and therefore permit the backward and forward movement of the brake-beam 10.

In the foregoing description I have shown 105 the preferred form of my invention; but I do not limit myself thereto, as I am aware that modifications may be made therein without departing from the spirit or sacrificing any 110 of the advantages thereof, and I therefore reserve the right to make such changes as fairly fall within the scope of my invention.

Having thus described the invention, what is claimed as new is—

1. The combination with the running-gear 115 of a vehicle having a brake-beam suspended therefrom, and means for holding the beam normally removed from the wheels of the running-gear; of oppositely-disposed series of le- 120 vers, the levers of each series being arranged upon a single pivot connected to the running-gear, means for connecting the levers of the two series together and with the brake-beam, a tongue extending from the running-gear, a 125 pivoted loop thereon, and connecting means between the loop and levers.

2. The combination with the running-gear of a vehicle having a brake-beam suspended therefrom, and automatic means for normally 130 holding the beam removed from the wheels

of the running-gear; of oppositely-disposed series of levers, the levers of each series being pivoted upon a single pin connected to the running-gear, rigid connections between the levers and the beam and levers, a tongue extending from the running-gear, a pivoted loop thereon, a connecting device between the loop and levers, and means operated by the tongue for locking the levers against movement.

3. The combination with the running-gear of a vehicle having a brake-beam depending therefrom, and a spring for holding the beam normally removed from the wheels of the gear; of a tongue extending from the running-gear, an operating device pivoted thereto, a pivoted loop connected to the operating device, a lug thereon, a rod connected to the loop, mechanism interposed between the rod and brake-beam, whereby the beam is applied to the wheels of the gear by the movement of the operating device, and a jaw slidably mounted upon the running-gear and adapted to engage the lug.

4. The combination with the running-gear of a vehicle having a brake-beam suspended therefrom, and means for applying the beam to the wheels of the running-gear; of oppositely-disposed spring-pressed jaws slidably mounted upon the running-gear, a loop pivoted to the running-gear, a lug thereon between and adapted to be engaged by one of the jaws, a rigid connection between the lug and the brake-applying mechanism, a tongue extending from the running-gear, and an operating device pivoted thereto and connected to the lug.

5. The combination with the running-gear of a vehicle having a spring-controlled brake-beam suspended therefrom, and means for operating the beam and tensioning the spring; of oppositely-disposed spring-pressed jaws slidably mounted upon the running-gear, a loop pivoted upon the running-gear, a lug thereon between and adapted to be engaged by one of the jaws, connecting devices between the lug and the beam-operating mechanism, means for swinging the loop and its lug, and a releasing-fork engaging the jaws.

6. The combination with the running-gear of a vehicle having a spring-controlled brake-beam suspended therefrom, and means for operating the beam and tensioning the spring; of oppositely-disposed spring-pressed jaws slidably mounted upon the running-gear, a movable lug interposed therebetween and adapted

to be engaged thereby, a yoke pivoted to the running-gear, rods connecting the yoke with the lug and with the beam-operating mechanism, respectively, and means for imparting movement to the lug.

7. The combination with the running-gear of a vehicle having a spring-controlled brake-beam suspended therefrom, and operating mechanism connected to the beam; of brackets secured to the running-gear, oppositely-disposed spring-pressed jaws slidably mounted within the brackets, a pivoted fork extending below the jaws and adapted to impart vertical movement thereto, a whiffletree connected to the fork, a movable lug normally interposed between and adapted to be engaged by one of the jaws, connecting means between the lug and the beam-operating mechanism, and means for operating the lug.

8. The combination with the running-gear of a vehicle having a brake-beam suspended therefrom, and mechanism for operating the beam; of brackets secured to the running-gear, curved jaws slidably mounted therein, pins extending from the jaws, springs bearing upon the pins, a movable lug between and adapted to be engaged by one of the jaws, means for operating the lug, and connecting devices between the lug and the beam-operating mechanism.

9. The combination with the running-gear of a vehicle having a pivoted axle, a brake-beam suspended from the gear, and operating mechanism connected to the brake-beam; of oppositely-disposed jaws connected to the movable axle, pins extending therefrom and adapted to be engaged by the stationary portion of the gear, springs for holding the pins normally in contact with said stationary portion, a movable lug normally interposed between and adapted to be engaged by one of the jaws, said lug being connected to the movable axle, connecting devices between the lug and the beam-operating mechanism, a fork pivoted upon the running-gear and movable with the pivoted axle, said fork extending under and adapted to impart movement to the jaws, a whiffletree secured to the fork, and means for imparting movement to the lug.

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

NICHOLAS PFEFFER.

Witnesses:

LOUIS MAUSER,

PETER H. GREINER.