(No Model.)

F. A. V. THELANDER.

AUTOMATIC WAGON BRAKE.

No. 515,264. Patented Feb. 20, 1894.

Fig. 1.

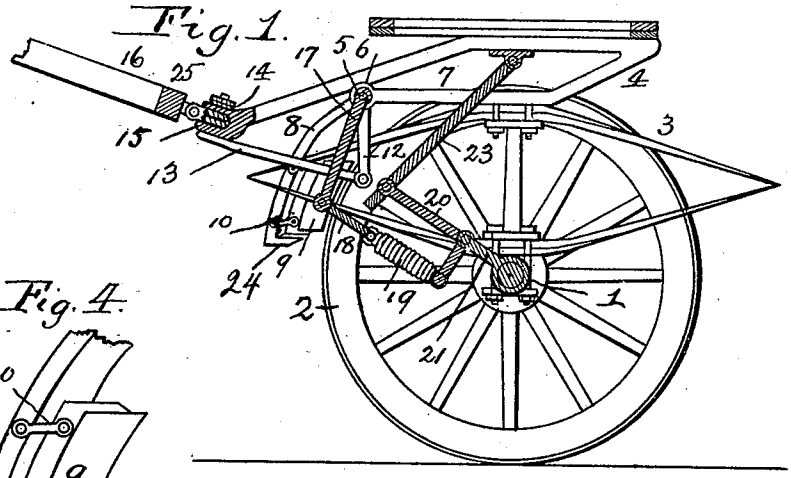


Fig. 4.

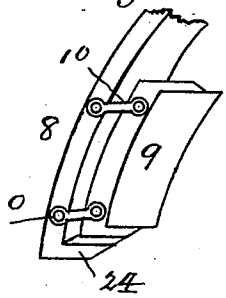


Fig. 2.

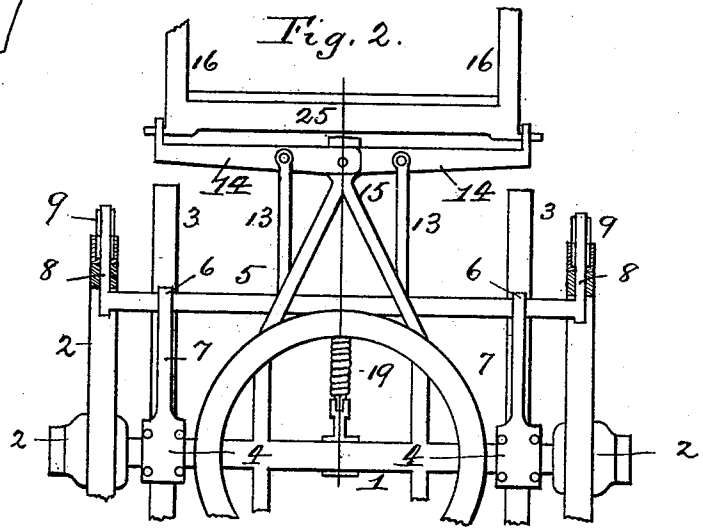
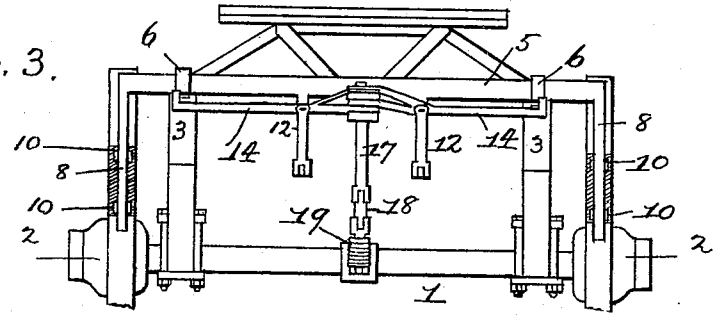


Fig. 3.



Witnesses:

Jos. L. Coomes

Inventor:

Frithiof August Valdemar Thelander,

By Lacey Lagger & Co.

Attys.

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FRITHIOF AUGUST VALDEMAR THELANDER, OF STOCKHOLM, SWEDEN.

AUTOMATIC WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 515,264, dated February 20, 1894.

Application filed May 6, 1893. Serial No. 473,309. (No model.) Patented in Sweden December 11, 1891, No. 3,928.

To all whom it may concern:

Be it known that I, FRITHIOF AUGUST VALDEMAR THELANDER, a resident of Stockholm, Sweden, have invented certain new and useful Improvements in Automatic Wagon-Brakes, (patented in Sweden December 11, 1891, No. 3,928;) and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in automatic vehicle brakes which are set by the holding back of the draft animals, and in which also the weight of the load carried by the vehicle, aids in setting the brakes.

The invention consists in the novel construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawings: Figure 1 is a central longitudinal sectional view of the front part of a wagon with my improved brake mechanism applied thereto. Fig. 2 is a plan view. Fig. 3 is a front view of the same. Fig. 4 is a detail perspective view of the brake shoes, on an enlarged scale.

In the said drawings the reference numeral 1 designates the front axle, 2 the wheels, 3 the springs, and 4 the body support clipped to said springs.

The numeral 5 designates a transverse brake beam, journaled in bearings 6, in the front ends of bars 7, forming part of the body support. At each end this brake beam is provided with curved arms 8, which are connected with the brake shoes 9, by means of pivoted links 10. Intermediate of its ends the brake beam is provided with two downwardly depending cranks 12, to the lower ends of which are pivoted forwardly extending arms 13, connected with a double draft bar consisting of two arms 14, the inner ends of which are bifurcated and overlap each other and are pivoted to the front end of a crutch or bifurcated bar 15 secured to the body support. To the free ends of the arms 14, are hooked the shafts 16. Secured to the brake beam at or near its center is a crank 17, to the lower end of which is pivoted a link 18, connected with one end of a coiled spring 19, the other end of which is connected with the short arm of a bell crank lever 20, pivoted to lugs 21, secured to the axle 1. The long arm of this lever is pivoted to a bar 23, the other end of which is pivoted to the body support. The lower ends of the arms 8 are formed with lugs 24, which serve as supports or rests for the lower ends of the brake shoes.

The operation is as follows: When the animals are pulling the wagon, the brake shoes will be forced away from the wheels through the medium of the pivoted arms forming the double draft bar, the arms 13, crank 12, brake beam 5, and curved arms 8. When, however, the animals hold back, as when going down hill, the pivoted arms 14, will be forced backward, carrying with them the arms 13, which will actuate cranks 12, which in turn will partially rotate the brake beam and cause the curved arms 8 to move toward the wheels and the brake shoes to be forced into contact therewith. The coiled spring 19 will also aid in setting the brakes through the medium of crank 17 and link 18. This spring also serves to counteract the effects of sudden jerks.

It will be noted that when the wagon is loaded the body support will be depressed in proportion to the weight of the load, causing the coiled spring through the medium of the rod 23, and bell crank 20, to be elongated, the tendency of which will be to force the brake shoes through the connections above described into contact with the wheels.

It will be obvious that by means of the pivoted links connecting the arms 8 with the brake shoes, that when the vehicle is backed said shoes will be lifted up by frictional contact with the wheels so that they will not act to break the latter. When thus lifted up the cross bar 25, connected with the shafts will strike against the front end of the crutch 15, whereby the backward movement of the brake shoes is limited.

Having thus described my invention, what I claim is—

1. In an automatic vehicle brake, the combination with the two part draft bar having the inner ends pivotally connected together of the arms pivoted thereto, the cranks pivoted thereto, the oscillatory brake beam to

which said cranks are secured, the curved arms secured to said beam, the brake shoes and the pivoted links connecting said arms and shoes; substantially as described.

2. In an automatic vehicle brake, the combination with the two part draft bar having the inner ends pivotally connected together, the arms pivoted thereto, the cranks pivoted to said arms, the oscillatory brake beam to which said cranks are secured, the curved arms secured to said cranks, and the brake shoes secured to said arms, of the crank secured to the center of said brake beam, the link connected therewith and the coiled spring secured to said link; substantially as described.

3. In an automatic vehicle brake, the combination with the two part draft bar having the inner ends pivotally connected together, the arms pivoted thereto, the cranks pivoted to said arms, the oscillatory brake beam, the curved arms secured thereto and the brake shoes, of the crank secured to said brake beam the link connected therewith, the coiled spring connected with said link and connected with a bell crank pivoted in lugs secured to the axle of the vehicle, of the body support and the rod pivotally connected with said support and with the said bell crank; substantially as described.

4. In a vehicle brake of the character described the combination of the two part draft bar, the inner ends of which are pivotally connected together and to a crutch connected with the wagon body, the rearwardly extending arms secured to said draft bar and connected with the brake beam, the shafts and the cross bar connected therewith and adapted to abut against said crutch to limit the backward movement of said draft bar; substantially as described.

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

FRITHIOF AUGUST VALDEMAR THELANDER.

Witnesses:

CARL CIERELL,

HJAHNAR VON KOHLER.