No. 620,153. Patented Feb. 28, 1899.

V. LAUER & F. C. KLOSSNER.

AUTOMATIC BRAKE.

(Application filed Aug. 29, 1898.)

(No Model.)

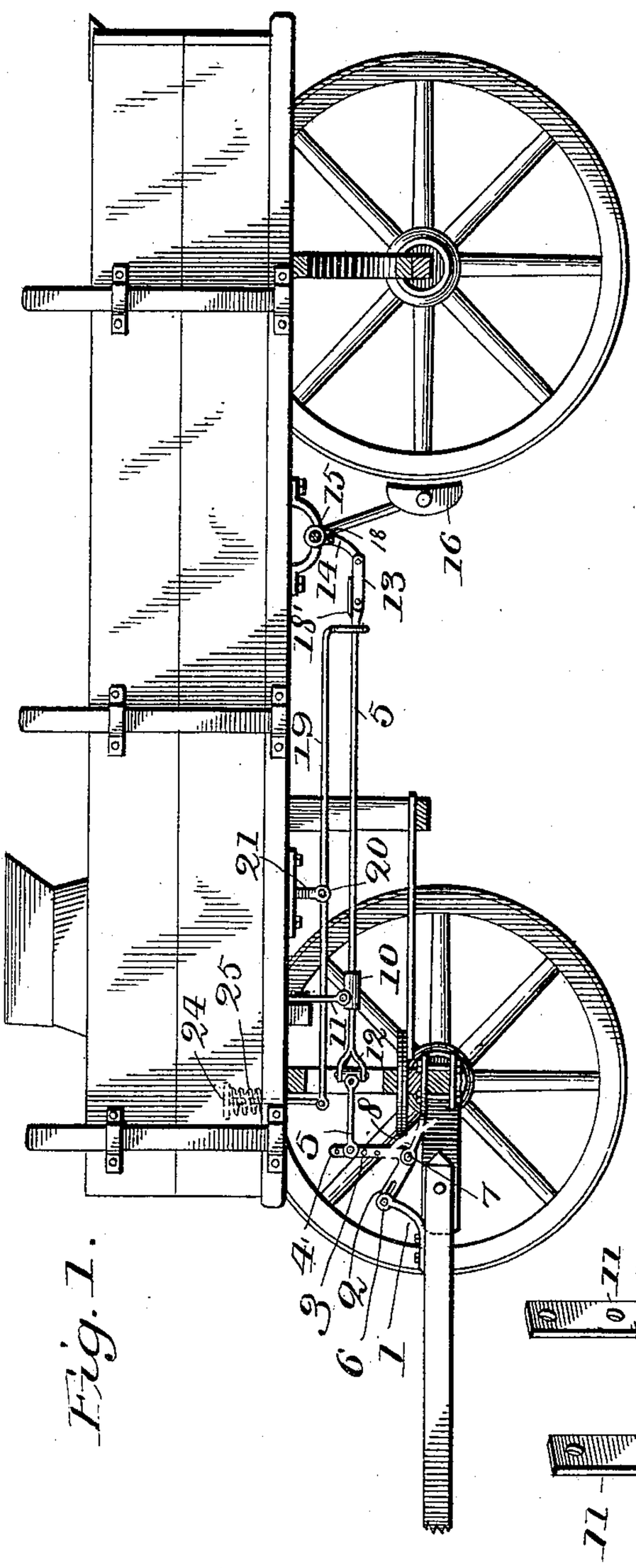

Fig. 1.

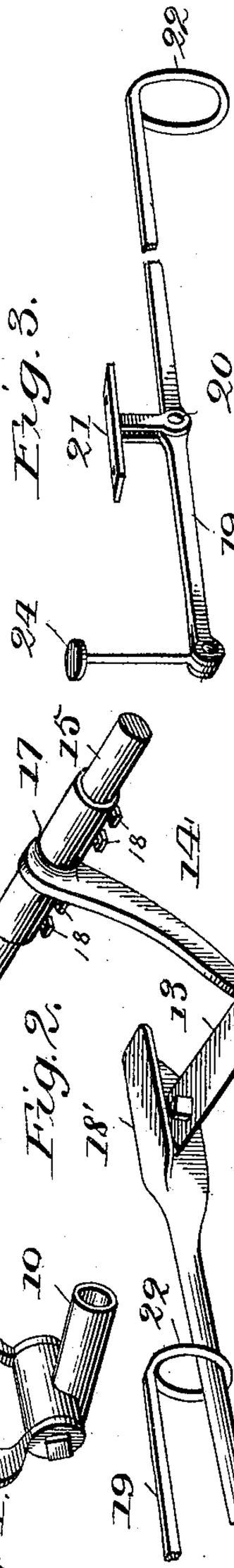

Fig. 3.

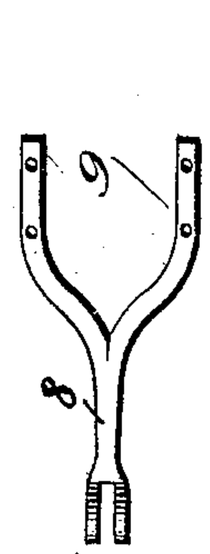

Fig. 5.

Fig. 2.

Fig. 4.

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UNITED STATES PATENT OFFICE.

VICTOR LAUER AND FREDERICK C. KLOSSNER, OF LITTLE BERGER, MISSOURI.

AUTOMATIC BRAKE.

SPECIFICATION forming part of Letters Patent No. 620,153, dated February 28, 1899.

Application filed August 29, 1898. Serial No. 689,805. (No model.)

To all whom it may concern:

Be it known that we, VICTOR LAUER and FREDERICK CHARLES KLOSSNER, citizens of the United States, residing at Little Berger, in the county of Gasconade and State of Missouri, have invented certain new and useful Improvements in Automatic Brakes; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to automatic vehicle-brakes, and is in the nature of an improvement upon the construction disclosed in Letters Patent No. 601,127, granted March 22, 1898, to A. G. Dahl and Victor Lauer, the last-named party being one of the parties hereto.

The primary object of the present invention is to make provision in a brake of the character set forth in said patent, whereby the brake-shoes may be thrown out of operation when it is desired to back the team. In the construction hereinafter set forth the holding back of the animals will automatically apply the brakes, the same as in the patent hereinabove referred to, the improvement residing in the particular means for allowing the animals to back with the vehicle without necessarily applying the brakes.

The detailed objects and advantages of the invention will appear more fully in the course of the subjoined description.

The invention consists in an automatic vehicle-brake embodying certain novel features and details of construction and relative disposition of parts, as hereinafter fully set forth, illustrated in the drawings, and incorporated in the claims.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, of a sufficient portion of a vehicle to illustrate the application of our improved brake mechanism thereto. Fig. 2 is a detail perspective view of the rear portion of the brake-rod and the crank-arm on the brake-shaft connected to said brake-rod. Fig. 3 is a detail perspective view of the foot-lever and its connections. Figs. 4 and 5 are detail views of the supporting-brackets.

Similar numerals of reference designate corresponding parts in all the views.

Referring now to the drawings, 1 designates a clip which is secured to the tongue or shafts of a vehicle, the same having its rear end bifurcated to receive the slotted forwardly-extending arm 2 of the elbow-lever 3, the remaining upright arm of which is provided with a series of openings 4 to receive the forward end of the brake-rod 5. A bolt or suitable connection 6 extends through the bifurcated end of the clip 1 and also through the slot in the elbow-lever and works in the slot so as to afford the necessary play during the operation of the lever and to compensate for the rise and fall and play of the tongue or shafts. The elbow-lever is supported and fulcrumed at its elbow upon a bolt 7, passed through the forward bifurcated end of the arm or bracket 8, the rear end of which is forked, as indicated at 9, and bolted to the axle.

The brake-rod 5 is slidingly mounted in a sleeve 10, connected pivotally to a hanger 11, the arms of which may be connected in any suitable manner to the bolster or other convenient part of the running-gear. The rod 5 operates with a pushing action in a rearward direction to apply the brakes and is provided in front of the sleeve 10 with a universal joint 12 for the purpose of accommodating the upward and downward movement of the tongue or shafts, as well as the swinging of the front axle in turning corners.

The push-rod 5 extends rearwardly to a point adjacent to the rear axle, where it is connected by means of parallel links 13 to a pendent crank-arm 14, adjustably secured fast upon the rock-shaft 15, forming the brake-shaft. This brake-shaft is journaled in suitable hangings on the vehicle-body or running-gear and is provided at its ends with depending extensions, to which are connected brake-shoes 16 for application to the rear wheels of the vehicle. The crank-arm 14 is provided with a horizontal elongated sleeve or loop 17, carrying binding-screws 18 at each side of the vertical line of the crank-arm, whereby said crank-arm may be adjusted longitudinally of the brake-shaft and held rigidly thereon.

The links 13, which connect the brake-rod and crank-arm, are pivotally attached to both of said parts, and the brake-rod is provided with a stop-plate 18′, which when the rear end of said rod moves downward comes in contact with the upper edges of the links and forms a locking-joint for preventing their downward movement at that point. A break-joint is thus formed at or near the rear end of the brake-rod, and this joint may be broken for the purpose of allowing the brake-shoes to free themselves from the wheels, even though the animals are exerting a backward pressure on the brake-rod.

In order to enable the driver or operator to break the joint, we provide a foot-lever 19, which is fulcrumed at 20 at a point intermediate its ends on a hanger or bracket 21 secured to the vehicle-body. The foot-lever is provided at its rear end with an enlarged loop 22, which embraces the brake-rod near its rear end. Connected pivotally to the forward end of the foot-lever is the stem or plunger of a foot-piece or presser-foot 24, located upon the floor of the vehicle and upheld normally by means of a spiral spring 25, surrounding the stem or plunger and interposed between the floor of the vehicle and the presser-foot.

By the foregoing description it will be seen that in going downhill the brakes will be automatically applied by the vehicle running forward toward the animals and the resistance of the animals to the forward progress of the vehicle. When the vehicle is standing upon level ground and it is desired to back the team, the operator or driver depresses the forward end of the foot-lever and breaks the joint near the rear end of the brake-rod. This allows the animals to back the vehicle without operating the brake-shaft to apply the brake-shoe to the wheels.

We, of course, do not desire to limit ourselves to the exact details of construction and arrangement of parts hereinabove set forth, but reserve to ourselves the right to modify and vary the construction within the scope of this invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In an automatic vehicle-brake which is adapted to be applied by the resistance of the animals to the forward movement of the vehicle, a brake-rod provided with a break-joint, and a foot-lever connected to said rod for enabling the driver to break the joint, substantially as described.

2. In an automatic vehicle-brake, designed to be applied by the resistance of the animals to the forward movement of the vehicle, the combination with a rock-shaft carrying brake-shoes and provided with a crank-arm, of a brake-rod connected to said crank-arm, and a break-joint at or near the connection of the brake-rod with said crank-arm, substantially as described.

3. In an automatic vehicle-brake designed to be applied by the resistance of the animals to the forward movement of the vehicle, the combination with a rock-shaft carrying brake-shoes and a crank-arm, of a brake-rod, parallel links pivotally connecting said brake-rod and crank-arm, and a stop-plate forming a heel extension of the brake-rod and coöperating with said links, substantially as described.

4. In an automatic vehicle-brake designed to be applied by the resistance of the animals to the forward movement of the vehicle, the combination with a brake-shaft having brake-shoes and a crank-arm, of a brake-rod connected to said crank-arm, a break-joint near the point of connection of said rod with the crank-arm, and a foot-lever connected to said rod in such manner as to enable the joint thereof to be broken, substantially as described.

5. In an automatic vehicle-brake, the combination with a brake-shaft having brake-shoes and a crank-arm, of a brake-rod connected to said crank-arm and having a break-joint near the crank-arm, and a foot-lever having a loop encircling the brake-rod adjacent to the brake-shoe, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

VICTOR LAUER.
F. C. KLOSSNER.

Witnesses:
CONRAD RUEDIGER,
HERMANN BENSING, Jr.