No. 728,949. PATENTED MAY 26, 1903.

W. M. MASON.

VEHICLE BRAKE.

APPLICATION FILED AUG. 14, 1902.

NO MODEL.

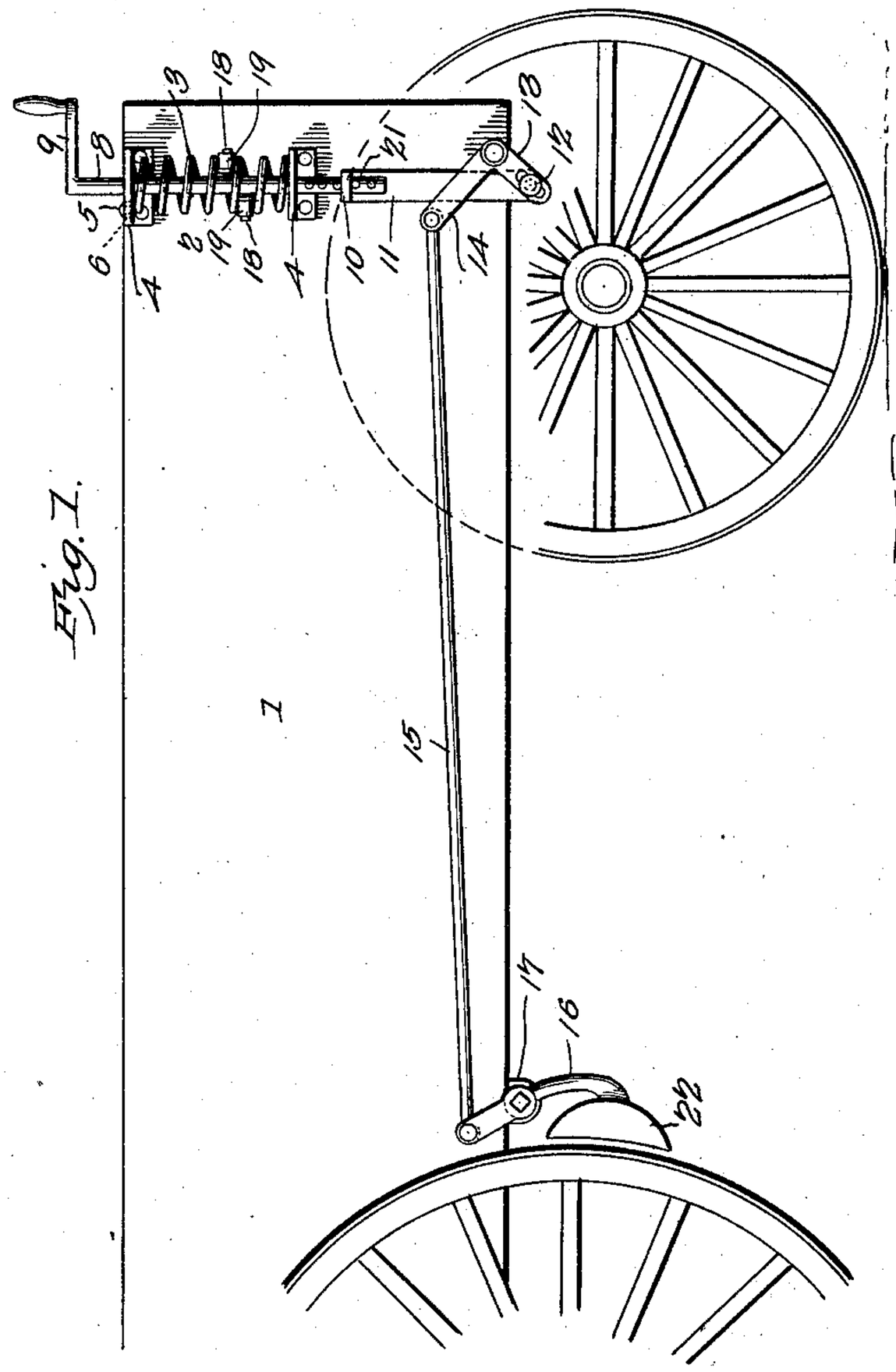

Fig. 1.

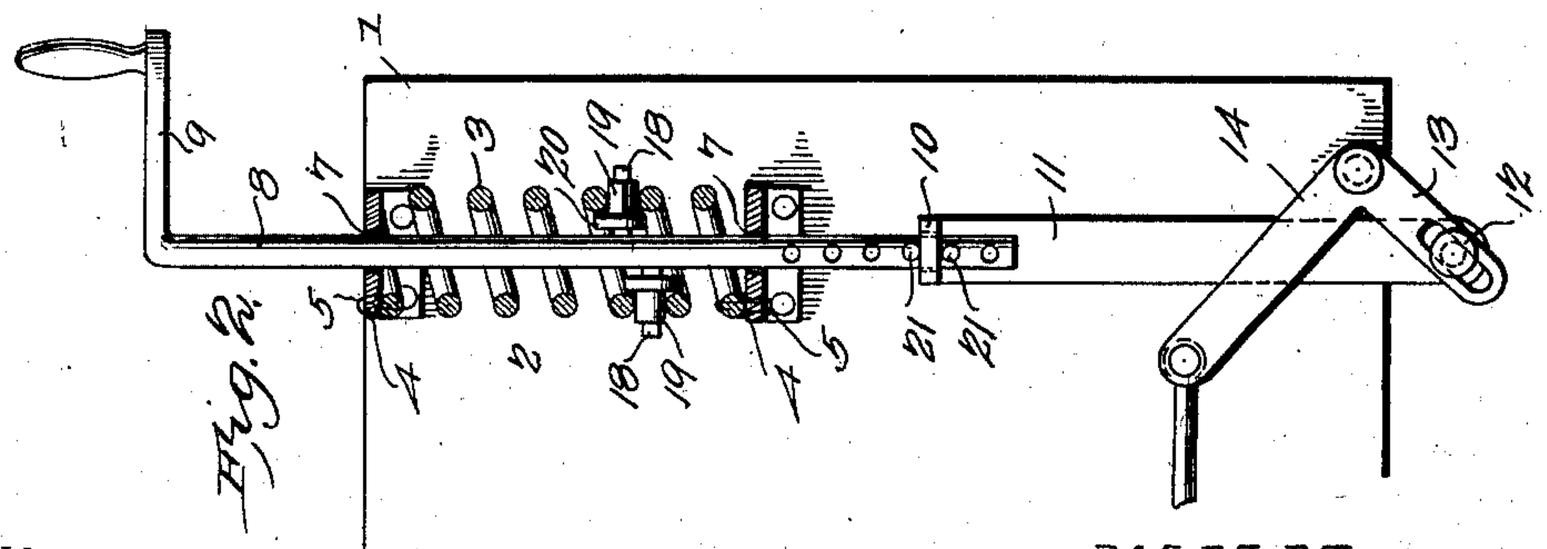

Fig. 2.

Witnesses
E. F. Stewart
R. M. Elliott.

W. M. Mason, Inventor
by C. A. Snow & Co
Attorneys

No. 728,949. Patented May 26, 1903.

UNITED STATES PATENT OFFICE.

WASHINGTON MONROE MASON, OF BYRD, TENNESSEE.

VEHICLE-BRAKE.

SPECIFICATION forming part of Letters Patent No. 728,949, dated May 26, 1903.

Application filed August 14, 1902. Serial No. 119,664. (No model.)

To all whom it may concern:

Be it known that I, WASHINGTON MONROE MASON, a citizen of the United States, residing at Byrd, in the county of Scott and State of Tennessee, have invented a new and useful Vehicle-Brake, of which the following is a specification.

This invention relates to vehicle-brakes.

The object is to present a simply-constructed, cheap, durable, and thoroughly-efficient form of brake, which with the output of a minimum amount of energy will be effective for tightly binding a brake-shoe against a wheel and holding the same there.

A further object is without lessening the strength of the brake mechanism to reduce its weight to a minimum.

With these and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a vehicle-brake, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of the specification, and in which like numerals of reference indicate corresponding parts, there is illustrated a form of embodiment of the invention capable of carrying the same into practical operation, it being understood that the elements therein exhibited may be varied or changed as to shape, proportion, and exact manner of assemblage without departing from the scope of the invention, and in these drawings—

Figure 1 is view in side elevation of a portion of a wagon-body, showing the brake applied thereto. Fig. 2 is a similar view, on an enlarged scale, in section.

Referring to the drawings, 1 designates the side of a wagon-body to which the brake mechanism (designated generally 2) is in this instance secured, it being understood that, if preferred, the same may be attached to the front of the vehicle, and as this will be obvious detailed illustration is deemed unnecessary.

The brake mechanism comprises a spiral 3, the whirls of which are spaced apart to present a continuous passage-way from end to end. The spiral, which from its function is in effect a screw, is constructed of a bar or rod of metal possessing sufficient rigidity to withstand springing or bending under the pressure to which it will be subjected in use and has its terminals in this instance secured in guide-plates 4, rigidly attached to the sides of the wagon. The means of assembling the terminals of the spiral with the said plates consists, in this instance, in bending the extremities of the terminals at an angle to their length, as at 5, and passing the pintles thus formed through openings 6 in the plates provided for the purpose; but it is to be understood that the invention is not to be limited to this precise manner of holding the spiral in operative position with relation to the guide-plates, as the terminals of the spiral may be riveted to said plates or be bolted to or passed through the side of the wagon-body. The plates are each provided with an opening 7, which aline with each other and constitute bearings for a shaft 8, the upper end of which carries a crank 9 and the lower end of which projects through an offset 10, carried by the upper portion of a link 11, the lower end of the link being provided with a headed pin 12, which engages the slotted arm 13 of a bell-crank lever 14, pivoted at its angle to the side of the wagon-body, the other arm of the bell-crank lever having connected with it one end of a brake-rod 15, the other end of which connects with a brake-lever 16, mounted in the usual or any preferred manner for rocking movement in bearings 17, secured to the under side of the wagon-body.

The shaft carries two arms 18, projecting laterally from opposite sides thereof and disposed in planes corresponding to the space between two of the whirls of the spiral, and upon each of these arms is mounted a friction roller or collar 19, which is held associated with the arm by a flange 20, which bears against the inner surfaces of the whirls, as shown in Fig. 2, whereby the rollers or collars are permitted to have a limited lateral play upon the arms, but will be held from disconnection therewith. This manner of associating the rollers with the arms is one that will be found thoroughly efficient in use; but it is to be understood that the invention is not to be limited to this precise arrangement, as it will be obvious that the said rollers may be otherwise held on the arms and still be within the scope of the invention. The lower

extremity of the shaft is provided with a plurality of openings, and through two of these openings, one above and one below the offset 10, are passed pins 21, by which arrangement the shaft will be free to turn in the offset, but at the same time will impart vertical reciprocatory motion to the link under the rotation of the shaft. The provision of the plurality of openings is necessary to compensate for the wear of the brake-shoe 22; but it will be obvious that the employment of these pins may be dispensed with by lengthening the spiral, thereby to give a greater range of vertical movement to the shaft. The pitch of the whirls of the spiral is to be such that the brake-shoe will be held locked at any point to which it is moved, thereby dispensing with the employment of supplemental locking mechanism in the nature of ratchet-wheels and pawls such as would be necessary were the whirls pitched at such angle as to allow the shaft to rotate under the pressure transmitted thereto from the brake-shoes.

The advantages accruing from the employment of an open spiral over an ordinary screw are its cheapness, lightness, and the ease with which it may be replaced in case of damage or breakage. Further, the employment of intricate and expensive machinery in the production of the brake as a whole is rendered unnecessary, as an ordinary mechanic or blacksmith will be enabled to manufacture the same with the tools ordinarily employed for general repair-work.

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

1. A vehicle-brake comprising, a spiral, a shaft within the spiral and provided with means for engaging the whirls of the spiral, and power-transmitting mechanism associated with the shaft.

2. A vehicle-brake comprising a spiral, a shaft disposed centrally thereof and carrying antifriction-rollers engaging the whirls of the spiral, and power-transmitting mechanism adjustably associated with the shaft.

3. The combination with a wagon-body, of a pair of guide-plates secured thereto and provided with alined bearings, a spiral held in position by the plates, an operating-shaft mounted in the bearings and carrying antifriction-rollers for engagement with the whirls of the spiral, and power-transmitting mechanism connected with the shaft.

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

WASHINGTON MONROE MASON.

Witnesses:
M. C. SAY,
E. M. MAREM.