No. 747,638. PATENTED DEC. 22, 1903.

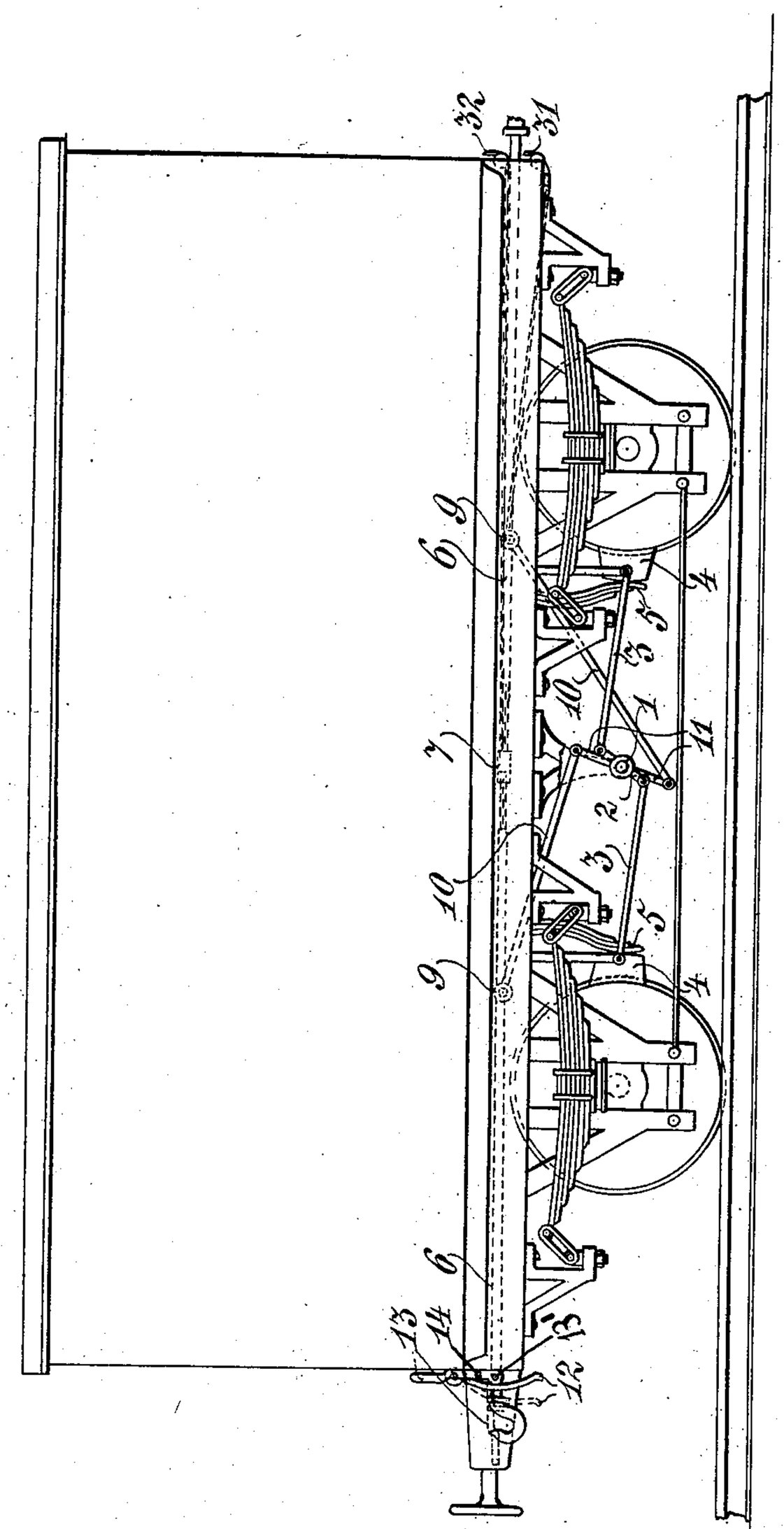
F. PROCHASKA.

RAILWAY BRAKE.

APPLICATION FILED APR. 4, 1903.

NO MODEL. 3 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

N. M. Kuehne

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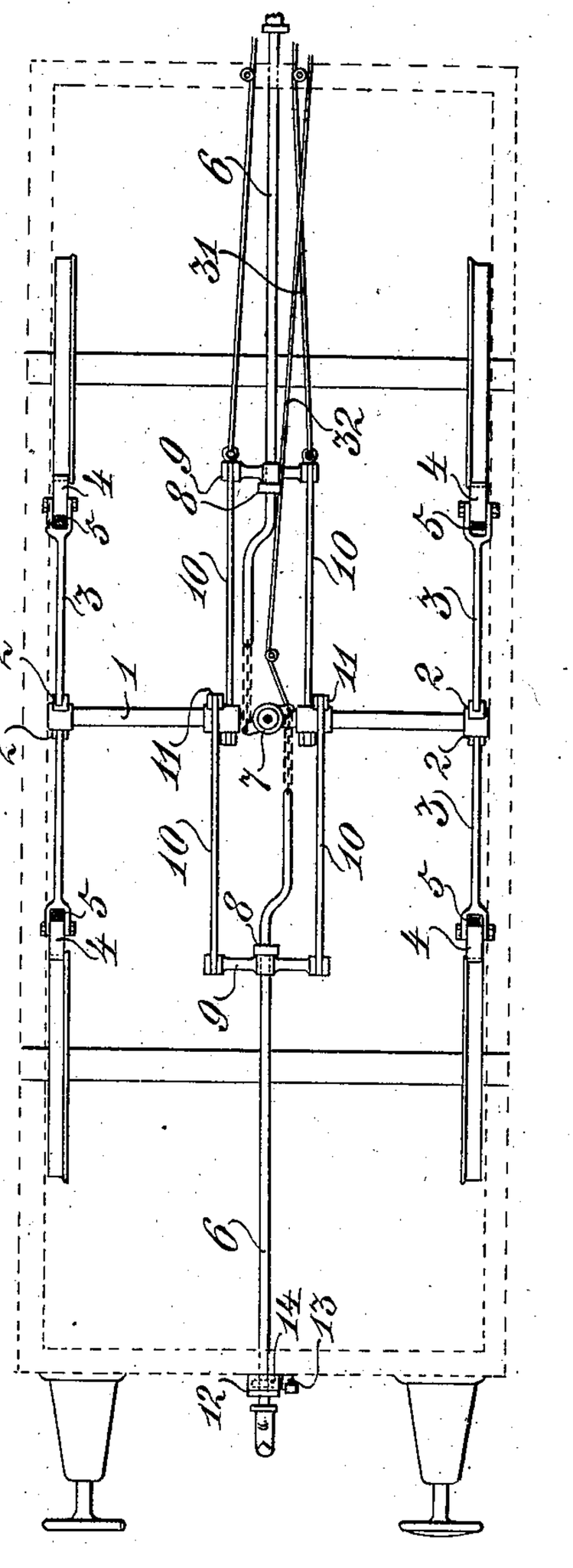
NO MODEL. 3 SHEETS—SHEET 2.

Fig. 2



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NO MODEL. 3 SHEETS—SHEET 3.

Fig. 3

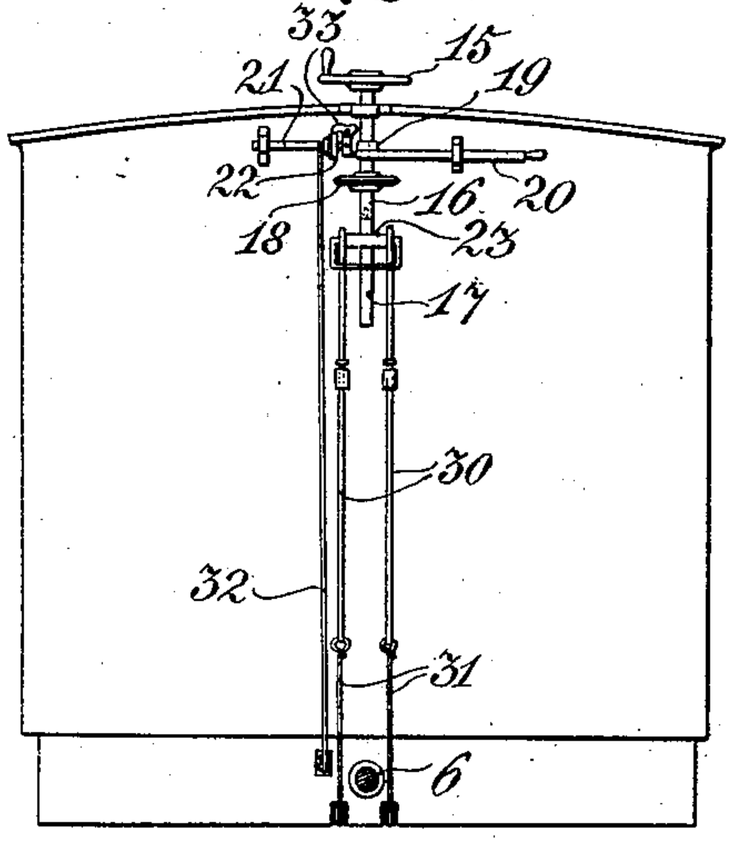


Fig. 4

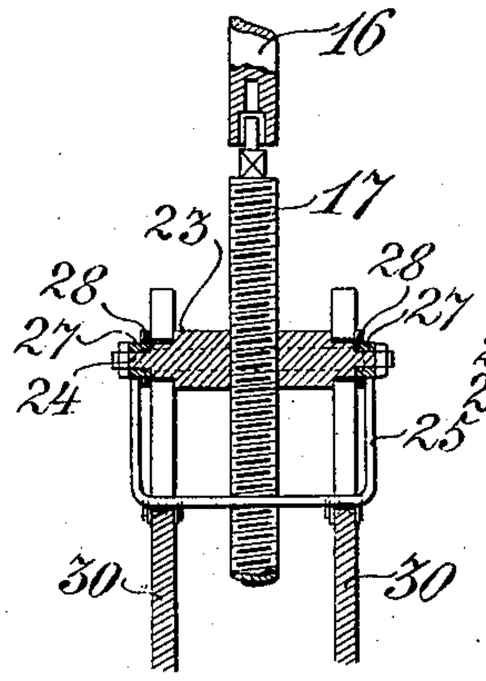


Fig. 5

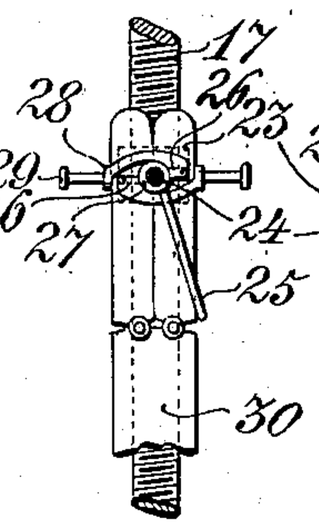
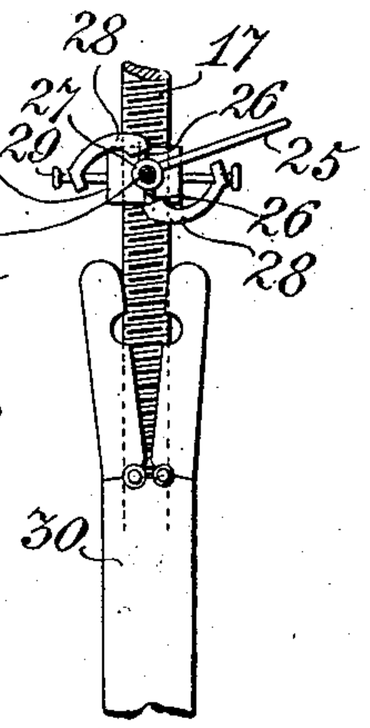


Fig. 6.



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UNITED STATES PATENT OFFICE.

FRANZ PROCHASKA, OF NEUTITSCHEIN, AUSTRIA-HUNGARY.

RAILWAY-BRAKE.

SPECIFICATION forming part of Letters Patent No. 747,638, dated December 22, 1903.

Application filed April 4, 1903. Serial No. 151,123. (No model.)

To all whom it may concern:

Be it known that I, FRANZ PROCHASKA, a subject of the Emperor of Austria-Hungary, residing at Neutitschein, in the Province of Moravia and Empire of Austria-Hungary, have invented certain new and useful Improvements in Railway-Brakes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation of a railway-car provided with the brake; Fig. 2, a plan view of the same, and Fig. 3 an end view of a car being provided with a device for connecting this brake with a hand-wheel. Figs. 4, 5, and 6 show details of the coupling mechanism represented in Fig. 3.

My invention relates to railway-brakes of that class in which the blocks of the brake are normally pressed to the wheels and are withdrawn therefrom owing to the traction exercised on the drawing-rod of the car.

The invention consists in a novel self-acting brake mechanism of this kind, means for putting it out of action, and means for connecting it with a hand-wheel, so that it may be actuated at will.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

The shaft 1, arranged in suitable bearings between the two wheel-shafts, has fixed to it two levers 2, which are pivotally connected to the blocks 4 by means of rods 3, forked at their ends. The blocks 4 are pressed to the wheels under the action of springs 5, secured to the car-truck. The hooks of the car are fixed to the drawing-rod 6, which may slide in the direction of its axis. This drawing-rod 6 consists of two parts connected by means of chains with the arms of a lever 7, pivoted on a vertical pin. Close to the fixed collars 8 of the drawing-rod 6 are loosely mounted cross-beams 9, the ends of which are by means of rods 10 pivotally connected with two levers 11, secured to the shaft 1. As represented in the drawings, the blocks 4 are pressed to the wheels under the action of the springs 5 when the brake is in action. If the railway-car is set in motion, the two parts of the drawing-rod will be withdrawn to the right hand and left hand, respectively, owing to the traction exercised on the hooks, whereby the cross-beams 9 and connecting-rods 10 act on the levers 11, and thus the levers 2 are displaced in such a manner that the blocks 4 are withdrawn from the wheels. If the traction slackens or if the railway-car stops fully, the blocks 4 are again pressed to the wheels and the brake is actuated. At standstill of the car the brake is always in action.

For the purpose of putting the brakes out of action if the car is to be moved in the station I provide a curved plate 12, which is on its upper edge pivotally connected to the front wall of the car and has a slot through which passes the drawing-rod 6. Close to this plate 12 I arrange a lever 13, which has a pin 14 projecting below the said plate, said lever being pivotally secured to the car-truck at 13′. If the brake is to be set out of action, the lever 13 is pushed downward, whereby its pin 14 acts on the plate 12 and presses the same forward. The plate 12 presses on a boss or collar of the hook, thus driving the hook and the drawing-rod forward, whereby the brake is put out of action in the same manner as described before. The lever 13 and the plate 12 keep the brake out of action until the lever 13 is pushed upward in its normal position.

The described self-acting brake may be connected with a hand-wheel for the purpose of enabling it being actuated at will by hand. This connection takes place in the following manner: On the rear wall of the car I provide a hand-wheel 15, the vertical shaft 16 of which may be coupled with a screw-spindle 17, Fig. 4. This spindle has on its upper end a squared portion which ends in a cylindrical pivot and fits in a corresponding hole of the shaft 16. The shaft 16 has fixedly secured to it a bevel-wheel 18 and is provided above this wheel with a collar 19, resting upon a forked lever 20. At the side of the vertical shaft 16 I arrange a horizontal shaft 21 with a bevel-wheel 22. The screw-spindle 17 is provided with a screw-nut 23, which has two pivots 24. On the smaller ends of these pivots are loosely mounted two rings 27, provided with lever-arms 26 and connected together by means of a bow 25. Other bows 28 are pivoted to the ends of the lever-arms 26

and carried on horizontal pins 29 on the screw-nut 23, Figs. 3, 4, and 5. The larger part of each pivot 24 is destined to receive a drawing-rod 30, the upper end of which is adapted to be opened, as indicated in Fig. 6. The rods 30 are connected, by means of wire ropes 31, with the cross-beam 9 of the drawing-rod 6. Another wire rope, 32, connects the shaft 21 with the lever 7. The brake is now actuated in the following manner: First, the shaft 16, carrying the bevel-wheel 18, is raised by means of the lever 20 until the bevel-wheel 18 comes into engagement with the bevel-wheel 22. By turning the hand-wheel 15 the wire rope 32 is now wound on the shaft 21 until the lever 7 is nearly parallel to the longitudinal axis of the car, whereby the parts of the drawing-rod 6 are drawn inward, so that the cross-beams 9 may freely move on them. The self-acting brake is now put out of function. In order to prevent the shaft 21 from turning backward, a catch 33 is arranged on its bearing, which catch prevents further turning of the wheel 22 by engaging with the teeth thereof. Hereafter the shaft 16 is lowered until it comes into engagement with the spindle 17, connected with the drawing-rods 30. The bow 25 on the nut-screw 23 is turned by hand into the raised position, (indicated in Fig. 6,) whereby the bows 28 are pushed outward, so that the rods 30 may pass between them. Finally the bow 25 is turned downward, whereby the bows 28 close and clench the ends of the rods 30. By turning the hand-wheel 15 the brake may now be actuated at will.

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

1. In a self-acting brake for railway-cars the combination with the drawing-rod formed of two parts, of a lever interposed between the said parts and connected therewith by means of chains, cross-beams mounted loosely on the drawing-rod, a lever-shaft, a pair of levers secured to this shaft and connected with the cross-beams, another pair of levers secured to this shaft and connected with the brake-blocks, and springs pressing the said brake-blocks to the wheels, substantially as described and for the purpose set forth.

2. In a self-acting brake for railway-cars the combination with the drawing-rod formed of two parts, of a lever interposed between the said parts and connected therewith by means of chains, cross-beams mounted loosely on the drawing-rod, a lever-shaft, a pair of levers secured to this shaft and connected with the cross-beams, another pair of levers secured to this shaft and connected with the brake-blocks, springs pressing the said brake-blocks to the wheels, a slotted plate pivotally secured to the front wall of the car and traversed by the drawing-rod, and a lever having a pin projecting under the said plate, substantially as described and for the purpose set forth.

3. In a self-acting brake for railway-cars the combination with the drawing-rod formed of two parts, of a lever interposed between the said parts and connected therewith by means of chains, cross-beams mounted loosely on the drawing-rod, a lever-shaft, a pair of levers secured to this shaft and connected with the cross-beams, another pair of levers secured to this shaft and connected with the brake-blocks, springs pressing the said blocks to the wheels, a hand-wheel, means for connecting the hand-wheel with the lever interposed between the two parts of the drawing-rod and means for connecting the hand-wheel with the cross-beams on the drawing-rod substantially as described and for the purpose set forth.

In witness whereof I have hereunto set my hand in presence of two witnesses.

FRANZ PROCHASKA.

Witnesses:
HANS PAPPENHEIM,
ALVESTO S. HOGUE.