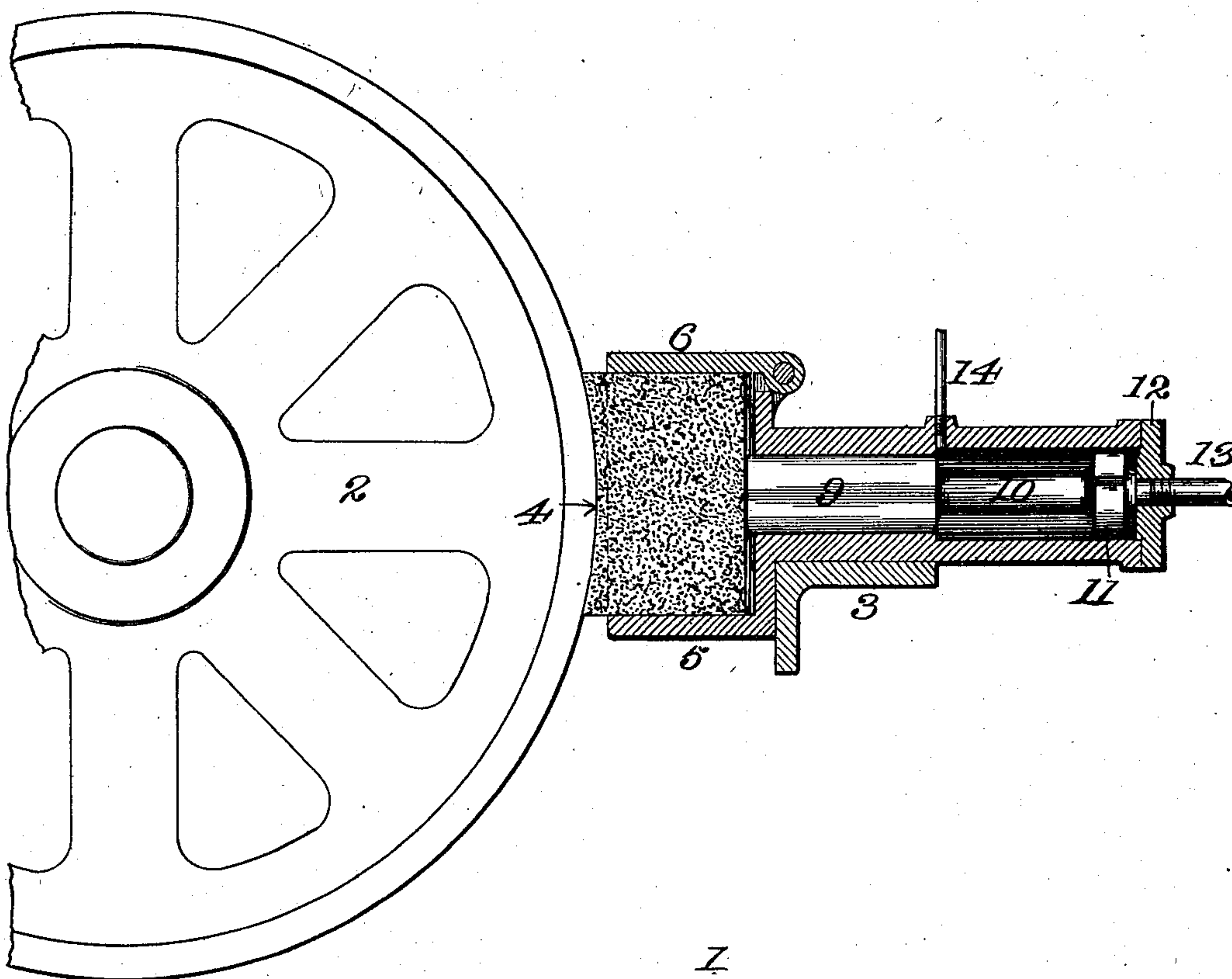


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PATENTED DEC. 22, 1903.

S. M. WILSON.
TRACTION DEVICE.
APPLICATION FILED JULY 6, 1903.

NO MODEL.



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TRACTION DEVICE.

SPECIFICATION forming part of Letters Patent No. 747,823, dated December 22, 1903.

Application filed July 6, 1903. Serial No. 164,371. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL M. WILSON, a citizen of the United States, residing at Philadelphia, State of Pennsylvania, have invented a new and useful Traction Device, of which the following is a specification.

My invention relates to that class of inventions where two metallic surfaces are contacted and one to have movement on the other with as little resistance as possible at times, and when it is desirous of having or forming a closer cohesion between the two metallic surfaces my device is particularly applicable. To provide a suitable material to be contacted with the metallic surfaces, I provide a block of granular material consisting of sand or other granular material and having a suitable bonding material, whereby the granular particles are held together.

A second object of my invention is to provide a suitable mechanical device whereby the block may be projected to contact with the hard or metallic surfaces at a predetermined time and also to retract the same when not in use.

In the accompanying drawing one form of operating mechanism is shown whereby a movement may be imparted to the bonded block wherein motive fluid serves as the medium of operation, the same being under the control of the engineer or other operator, to be contacted with the wheel or track when it is necessary to have an increased cohesion when starting or stopping the car, whereby the cohesion between the metallic surfaces will be increased.

The accompanying drawing illustrates a construction wherein fluid-pressure is used as an operating force to advance and retract the mechanism and consists of a main housing, shown in section with the interior parts in elevation, only that part of the truck being shown as would be required to which my invention may be attached.

1 is the railway-track, the rails of which may be of any configuration, 2 a wheel adapted to rotate on said track and is provided with suitable bearings carried by the truck-frame in the usual manner, 3 being a bar constituting a portion of the truck-frame. The same may be of any shape and so situated as

to be retained in a fixed position relative to the wheel.

4 is the granular or traction material, shown contacted with the wheel and held against vertical or lateral movement by the housing 5, but free to longitudinal movement.

6 is a cap or cover providing a means for removing or replacing the blocks and may be hinged or otherwise secured to the housing.

7 is a lateral extension of the housing and constitutes a cylinder in which the piston 8 has reciprocal movement. The said cylinder is bored to two diameters and the piston being of a double-headed type to fit the bore of the cylinder, one head of said piston being elongated at 9, and to one end of which is detachably secured the traction-block 4, the waist or reduced portion 10 serving to connect the heads 9 and 11. The end of said cylinder is closed by a suitable cap 12, into which is screwed or otherwise connected the pipe 13. Entering the cylinder at a point between the heads 9 and 11 is a second pipe 14, through which motive fluid is constantly admitted.

The operation of my device as here illustrated and described is as follows: Motive fluid being admitted constantly through the pipe 14 to the interior of the cylinder between the heads will operate to hold the piston retracted, acting with greater force on the large piston-head than on the smaller, whereby the granular block will be held away from the periphery of the wheel, and when it is desired to apply the granular block to the wheel motive fluid in sufficient quantity and at the desired pressure is admitted to the cylinder behind the piston-head 11 through the pipe 13, when there will be a movement of the piston toward the wheel, imparting a like movement to the granular block. When the same has been contacted, the rotating wheel will remove a portion of said granular material, some of which will adhere to the wheel, while a portion will be deposited on the track immediately in front of the wheel, and by such operation the traction will be increased between the track and wheel without the waste of material, as the application to the wheel will be made at the right time. The reverse movement of the piston is effected when the

motive fluid is exhausted from behind the large piston-head by its exhaust to the atmosphere, when there will be an expansion of the motive fluid between the heads and acting with greater force on the large head than on the small the piston will move rearward, carrying the granular block with it, and out of contact with the wheel.

The device, as here shown, may be located to operate at any point on the periphery of the wheel or may be so located on the truck as to be contacted with the track instead of the wheel.

Having described my invention, I claim—

1. A device of the class described, consisting of a block of granular material suitably bonded together and adapted to be contacted with the wheel or track, means for operating same by motive fluid whereby the cohesion between the wheel and track will be increased.

2. A device of the class described, consisting of a granular material, means whereby said material may be contacted with the periphery of a wheel or the surface of the track to increase the cohesion between the wheel and track, said means being fluid-actuated.

3. A device of the class described, consisting of a granular substance suitably bonded together, means for maintaining said granular substance in a fixed position relative to the metallic surface, means for holding said substance, and fluid-actuated means for operating said substance at predetermined times, to increase the cohesion between the wheel and track.

4. A device of the class described, consisting of a wheel, a truck, a granular substance bonded together, and a fluid-actuated motor carried upon said truck, whereby the granular block is contacted with the said wheel and withdrawn therefrom.

5. A device of the class described consisting of a granular substance bonded together, means for holding said body at a fixed distance from the periphery of a wheel or track, and means to contact said body with the track or wheel, the same consisting of a cylinder and a piston operating therein by motive-fluid pressure.

SAMUEL M. WILSON.

Witnesses:

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