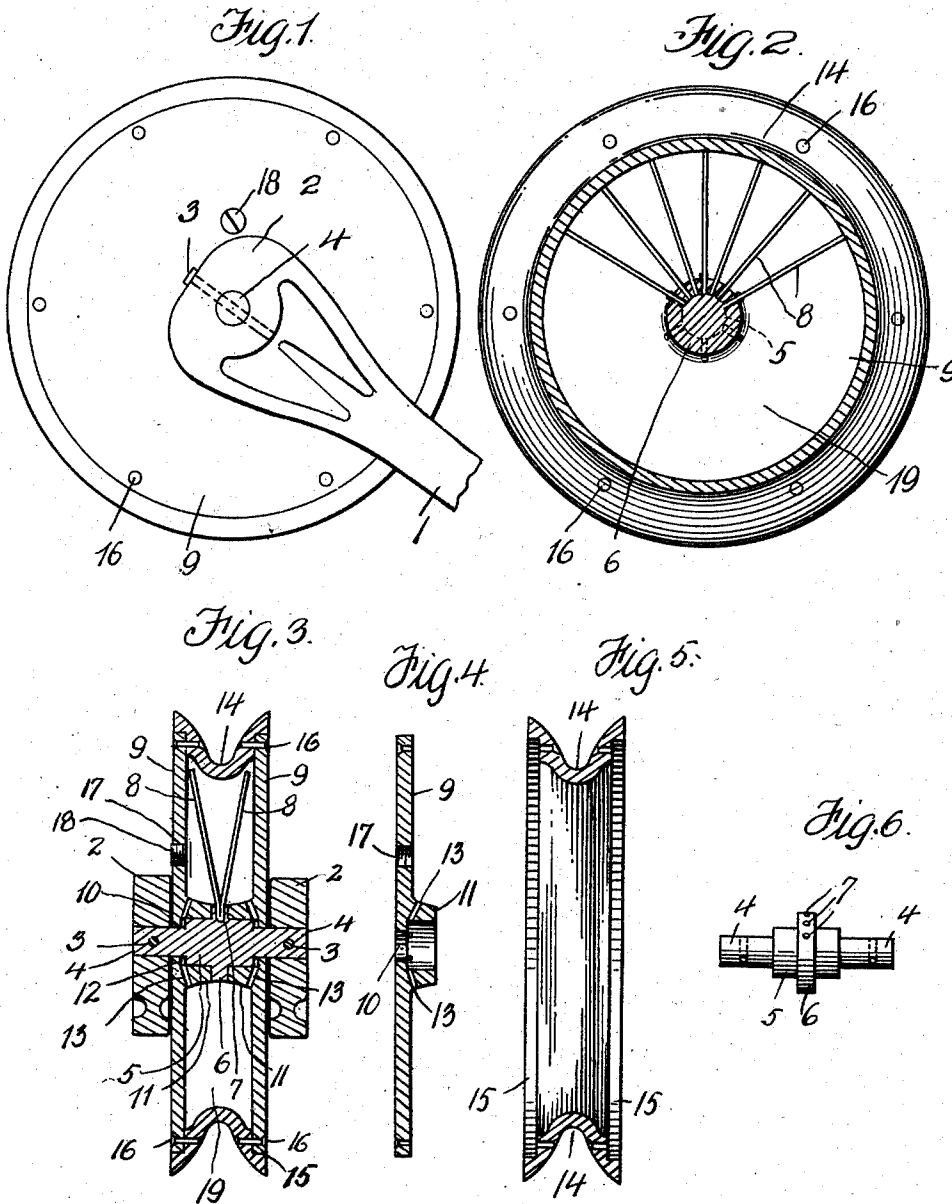


S. L. McADAMS.
TROLLEY WHEEL.
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967,031.

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Witnesses:-

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UNITED STATES PATENT OFFICE.

SYLVESTER L. McADAMS, OF BEAVER FALLS, PENNSYLVANIA.

TROLLEY-WHEEL.

967,031.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, SYLVESTER L. McADAMS, a citizen of the United States of America, residing at Beaver Falls, in the county of Beaver and State of Pennsylvania, have invented certain new and useful Improvements in Trolley-Wheels, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to trolley-wheels, and the objects of my invention are to furnish a trolley-wheel with simple and effective means for circulating a lubricant in the wheel and upon the stationary pin or spindle thereof, and to provide a trolley-wheel consisting of comparatively few parts easily and quickly assembled.

Other objects of my invention are to provide a trolley-wheel with a lubricant receptacle thereby obviating the necessity of continuously oiling the pin or spindle of the wheel, and to provide a wheel with a detachable shell that can be easily renewed when worn without discarding the remainder of the wheel.

Further objects of my invention are to accomplish the above results by a wheel that is simple, durable and inexpensive to manufacture, and to provide a wheel which when placed in operation will insure a thorough lubrication of the wearing parts of said wheel upon its spindle.

These and such other objects as may hereinafter appear are attained by the novel construction, combination and arrangement of parts to be hereinafter described in detail and then claimed.

Reference will now be had to the drawing forming a part of this specification, wherein there is illustrated a preferred embodiment of the invention, but it is to be understood that the structural elements thereof can be varied or changed, as to the size, proportion and manner of assemblage which will fall within the scope of the claims hereunto appended.

In the drawing:—Figure 1 is a side elevation of a wheel constructed in accordance with my invention. Fig. 2 is a vertical longitudinal sectional view of the same. Fig. 3 is a vertical cross sectional view of the wheel. Fig. 4 is a similar view of a de-

tached side plate. Fig. 5 is a similar view of a detached shell, and Fig. 6 is an elevation of a spindle adapted to form part of the wheel.

To place my invention in practice, I provide a trolley-wheel with a receptacle which is formed by four parts of the wheel and the centrifugal force of the wheel when in operation is adapted to throw the lubricant within the receptacle away from the parts to be lubricated, but I provide means within the receptacle for conveying or guiding the lubricant to the parts to be lubricated, thus maintaining a circulation of the lubricant, which is not only beneficial to the wheel, but prevents the lubricant from coagulating, settling or unduly wasting.

In the accompanying drawings the reference numeral 1 denotes a harp and fixed in the side arms 2 of said harp by pins 3 are the reduced cylindrical ends 4 of the spindle 5, said spindle intermediate the ends thereof being provided with a peripheral collar 6, which upon its upper side is provided with a plurality of equally spaced and radially disposed sockets 7 for the lower ends of radially disposed V-shaped conveyers 8. These conveyers are preferably made of wire bent upon itself with the bent portion suitably secured in the sockets 7.

The reference numerals 9 denote circular side plates having central openings 10 adapted to receive the reduced ends 4 of the spindle 5. The side plates 9 are provided with inwardly projecting annular bosses 11 adapted to surround and provide an annular seat for the ends of the spindle 5, said bosses being adapted to engage the sides of the collar 6 and allow an annular lubricant space 12 between the material bordering upon the openings 10 of the side plates 9 and the ends of the spindle 5, this space being best shown in Fig. 3 of the drawings. The bosses 11 are provided with a plurality of radially disposed openings 13 communicating with the lubricating spaces 12.

The reference numeral 14 denotes an annular shell substantially V-shaped in cross section and adapted to fit between the side plates 9, said shell having annular seats 15 for the edges of the side plates 9, which are secured in said seats by rivets 16 or other fastening means.

The reference numeral 17 denotes an opening in one of the side plates 9, said opening having the walls thereof threaded for a detachable screw plug 18.

5 When the various parts of my trolley-wheel are assembled, the side plates 9 and the shell 14 form an annular lubricant compartment or reservoir 19, which can be filled through the opening 17.

10 The openings 13 are adapted to establish communication between the reservoir 19 and the spaces 12, and the conveyers 8 are adapted to extend upwardly in the reservoir 19 in proximity to the shell 14 and the seated edges of the side plates 9.

15 Assuming that the reservoir 19 is partially filled and that the trolley-wheel is revolved upon the spindle 5 by contacting with the trolley-wire, the manner in which the contents of the reservoir 19 are circulated is as follows:—The centrifugal force set up by the rapid rotation of the trolley-wheel tends to throw the lubricant outwardly against the inner sides of the shell 14, and as the lubricant contacts with the conveyers 8, which are maintained stationary by the spindle 5, said conveyers carry the lubricant to the collar 6, where it oozes between the sides of said collar and the bosses 11. The lubricant is adapted to thoroughly oil the bearing surface of the spindle 5 and will eventually enter the spaces 12, where it is again subjected to the action of centrifugal force which causes the lubricant within the spaces 12 to pass through the openings 13 into the reservoir 19. This circulation of the lubricant is maintained as long as the wheel is rotated and the reservoir supplied with lubricant.

40 The side plates 9 can be made of a lighter and less expensive metal than the shell 14 and the spindle 5, the former being preferably made of bronze while the latter is made of steel.

Having now described my invention, what I claim as new is:—

1. A trolley wheel comprising a stationary spindle having reduced cylindrical ends and further provided approximately centrally with a peripheral collar formed with a circumferentially extending series of sockets, radially disposed V-shaped conveyers each having its apex extending in a socket, side plates revolubly mounted upon the reduced ends of said spindle, the free ends of the arms of said conveyers extending in proximity to the inner faces of said side plates, and an annular shell mounted upon the edges of said side plates and forming in connection with said plates and spindle a lubricant reservoir.

2. A trolley wheel comprising a stationary spindle having reduced cylindrical ends and further provided approximately centrally with a peripheral collar formed with a circumferentially extending series of sockets, radially disposed V-shaped conveyers each having its apex extending in a socket, side plates revolubly mounted upon the reduced ends of said spindle, the free ends of the arms of said conveyers extending in proximity to the inner faces of said side plates, and an annular shell mounted upon the edges of said side plates and forming in connection with said plates and spindle a lubricant reservoir, each of said side plates provided with an inwardly-extending boss mounted upon said spindle and projecting to said collar, said bosses provided with passages for conducting lubricant to the reduced ends of said spindle.

In testimony whereof I affix my signature in the presence of two witnesses.

SYLVESTER L. McADAMS.

Witnesses:

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