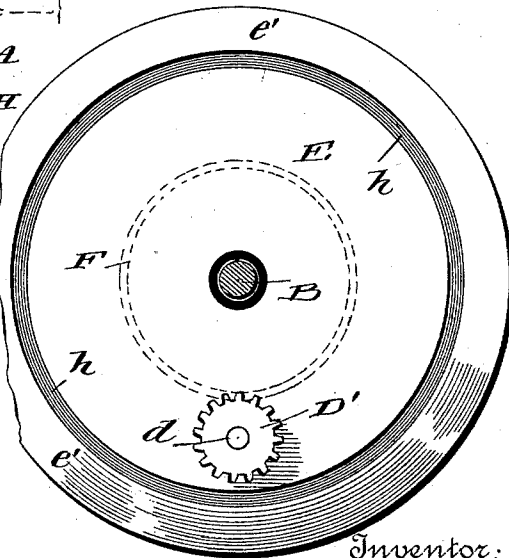
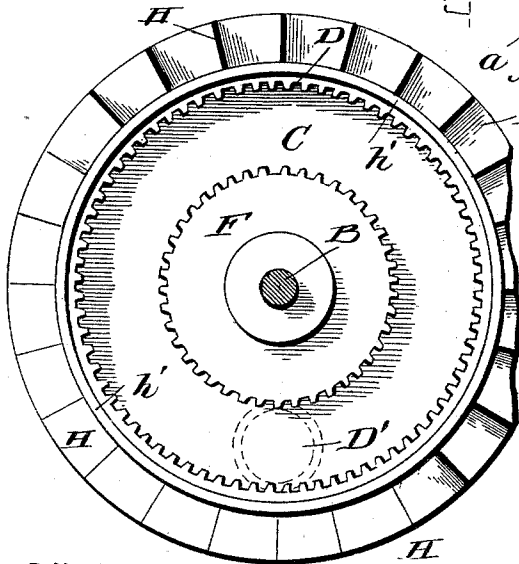
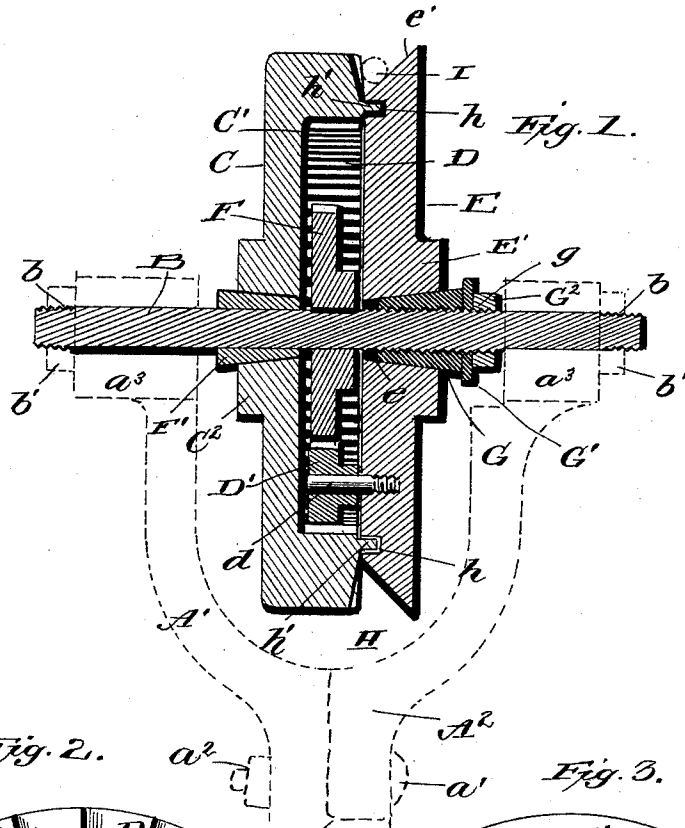


(No Model.)

VAN DYKE CRUSER.
TROLLEY WHEEL.

No. 519,837.

Patented May 15, 1894.



Witnesses:

L. C. Hills.
E. A. Bond

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UNITED STATES PATENT OFFICE.

VAN DYKE CRUSER, OF FLATBUSH, NEW YORK.

TROLLEY-WHEEL.

SPECIFICATION forming part of Letters Patent No. 519,837, dated May 15, 1894.

Application filed February 13, 1894. Serial No. 500,025. (No model.)

To all whom it may concern:

Be it known that I, VAN DYKE CRUSER, a citizen of the United States, residing at Flatbush, in the county of Kings, State of New York, have invented certain new and useful Improvements in Trolley-Wheels, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in trolleys, and it has for its objects among others to provide a simple and cheap trolley which is capable of use in the ordinary manner during all seasons of the year and yet shall be capable of use as a means for cleaning the wire of ice, sleet or snow during the winter season.

The improvement embodies a wheel carried by the usual form of support and formed of two parts with provision for taking up the wear, the one part being mounted for movement at a different speed from the other and the wheel having a wire-retaining groove with means for removing the ice and sleet from the wire. Gearing is provided within the wheel for giving the necessary movements to the parts thereof. Means are provided to prevent the wire from entering too far between the two parts of the wheel. The two parts of the wheel revolving in the same direction do not tend to injure the wire which is free to ride upon the beveled face of the one part.

Other objects and advantages of the invention will hereinafter appear and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a central section through a trolley wheel embodying my invention. Fig. 2 is a view looking at the inner face of one part of the wheel, with its shaft in cross section. Fig. 3 is a like view of the other part of the wheel, the shaft being also shown in cross section, and the adjacent edges of the two parts being broken away.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the draw-

ings by letter, A designates the trolley support which may be of any well known or approved form of construction, being made with its upper end or yoke A' in two parts separably connected together for the ready insertion of the wheel. The support in this instance is shown as formed with an offset *a* as seen in Fig. 1 into which is fitted the end of the complement A² of the yoke which is there secured in any manner as by bolt *a'* and nut *a*². The ends of the upright portions of the yoke are formed with bearings for the shaft of the wheel, as shown in Fig. 1, in which they are indicated by the letter *a*³. The shaft B is journaled in these boxes or bearings and has its ends which are extended beyond the bearings screw-threaded as seen at *b* to receive the nuts *b'*, as shown in Fig. 1.

C is one part of the wheel; it is formed with a chamber C' as seen in Fig. 1 which is provided with an internal gear D, with which meshes a small pinion D' on a stub shaft *d* screwed into the adjacent face of the other part E of the wheel, as shown best in Fig. 1. Keyed to the shaft B is a pinion F which meshes with the pinion D' as shown in all of the views. The pinions D' and F are located within the chamber of the part C of the wheel, as shown in Fig. 1. The hub C² of the part C of the wheel receives a conical bushing F' which is fast upon the shaft C as seen in Fig. 1, and the hub E' of the part E has a conical bore *e* which receives the conical bushing G which is internally threaded as seen in Fig. 1 to engage the screw threads *g* on the shaft B, the said bushing having at its outer end a flange G' which may be milled on the edge to permit of its being more readily turned, and bearing against the same is a nut G² as seen in Fig. 1. The conical bushing may be easily turned up to prevent wobbling of the parts, and to take up the wear, and is held in its adjusted position by the nut as shown in Fig. 1.

The inner face of the part E of the wheel is beveled as seen at *e'* while the adjacent face of the part C is also slightly tapered as seen in Fig. 1 and is provided with a series of notches or serrations H as shown in Figs. 1 and 2.

I is the trolley wire; in order to prevent the wire from getting too far between the two parts of the wheel I provide the inner

face of the one part, say the part E, with an annular groove or channel *h* as seen in Figs. 1 and 3 in which works a projection *h'* on the adjacent face of the other part of the wheel; 5 this projection may be a continuous one as seen in Fig. 2 or it may be an interrupted one, say in the shape of a plurality of pins or points properly spaced; in whichever form they may appear they, or it, will serve to 10 bridge the space between the two parts of the wheel as will be understood from Fig. 1.

The operation will be readily understood. The wheel is used in the ordinary manner under ordinary circumstances; the part C of 15 the wheel has a movement independent of the part E and in the same direction but at a greater rate of speed. When there is ice or snow on the wire the revolution of this part will, by reason of its notches, serve to remove 20 the ice and snow from the wire without the employment of any extraneous means.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

25 What I claim as new is—

1. A trolley wheel formed of two parts mounted for movement in the same direction at different rates of speed, as set forth.

2. A trolley wheel comprising two parts 30 mounted for movement in the same direction at different rates of speed and one part provided with notches to serve as a wire-cleaner, substantially as specified.

3. A trolley wheel comprising two parts 35 mounted for independent movement in the same direction on the same shaft, combined with means for rotating one of said parts faster than the other, as set forth.

4. A trolley wheel embodying two parts 40 mounted for rotation in the same direction at different rates of speed with their adjacent faces oppositely-beveled to form a wire-receiving groove, as set forth.

5. A trolley wheel comprising two parts 45 mounted for rotation in the same direction at different rates of speed with their adjacent faces oppositely-beveled and provided with means bridging the space between the said parts, substantially as specified.

6. A trolley wheel formed of two parts with 50 their adjacent faces oppositely-beveled to form a wire-receiving groove, and provided with means bridging the space between the same, substantially as and for the purpose specified. 55

7. The combination with a shaft and a pinion thereon, of the part of the wheel having internal gear, the complementary part of the wheel, and a pinion thereon meshing with the internal gear and the pinion on the shaft, 60 substantially as specified.

8. The combination with the shaft and the two parts of the wheel thereon for movement in the same direction at different rates of speed, of the conical bushings in the hubs of 65 the said two parts, one of which is adjustably mounted on the shaft, substantially as specified.

9. A trolley wheel composed of two parts mounted on the same shaft for rotation at 70 different rates of speed, formed with oppositely-beveled adjacent faces and the one part with an annular channel and the other with a projection working therein, and an adjustable conical bushing on the shaft for taking 75 up the wear on said parts, substantially as specified.

10. A trolley wheel having one part movable with the other at a greater rate of speed and serving as a wire-cleaner, substantially 80 as specified.

11. A trolley wheel comprising a shaft, a part thereon with chamber, internal gear, annular projection and notches upon its face, a part with beveled inner face and annular 85 channel to receive said projection, a stub shaft with pinion on said part and meshing with the internal gear of the other part, a pinion fast on the shaft within said chamber, and conical bushings in the hubs of said parts, 90 one of which is adjustably mounted on the shaft, substantially as specified.

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

VAN DYKE CRUSER.

Witnesses:

T. H. ROBERTS,
WM. H. JONES.