

(No Model.)

G. E. LEWIS.  
TROLLEY WHEEL.

No. 459,588.

Patented Sept. 15, 1891.

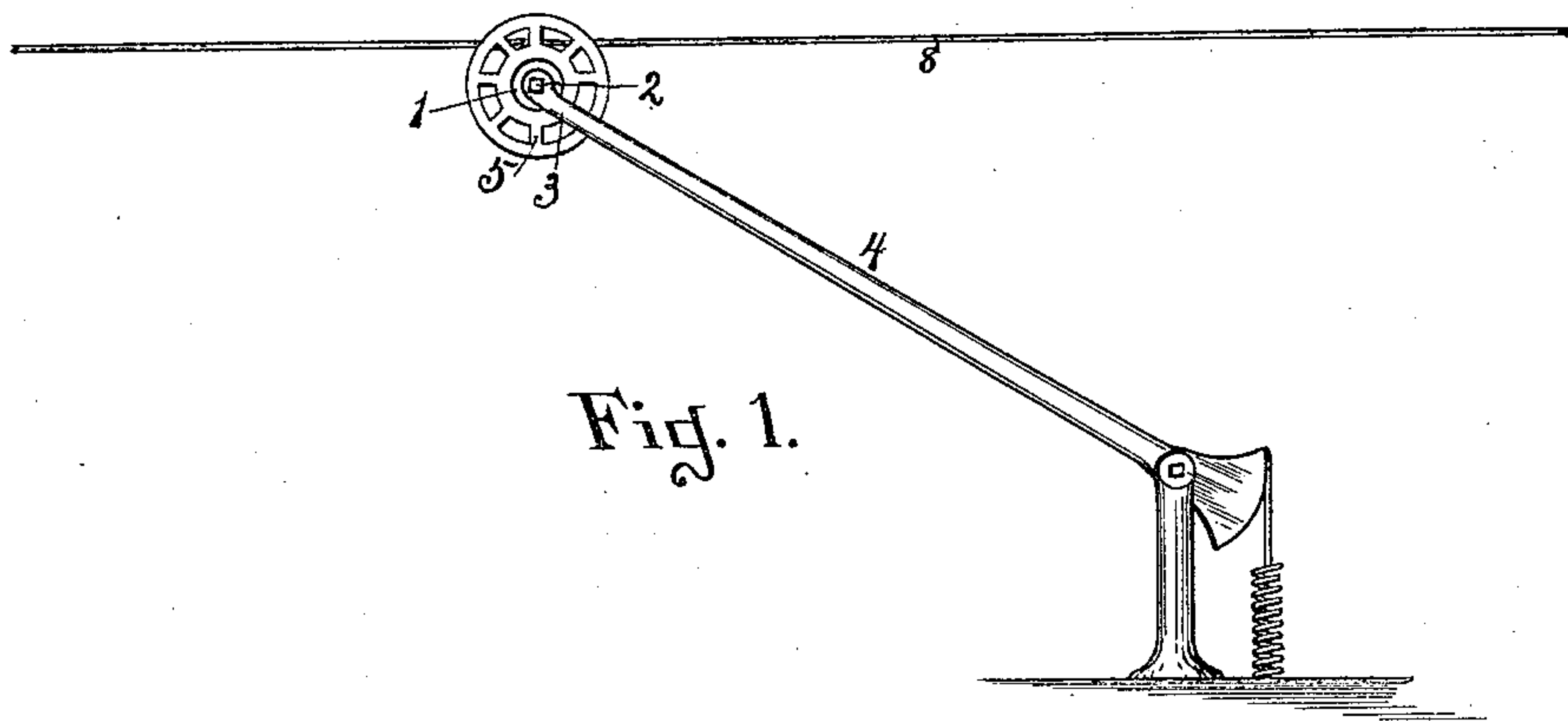


Fig. 1.

Fig. 2.

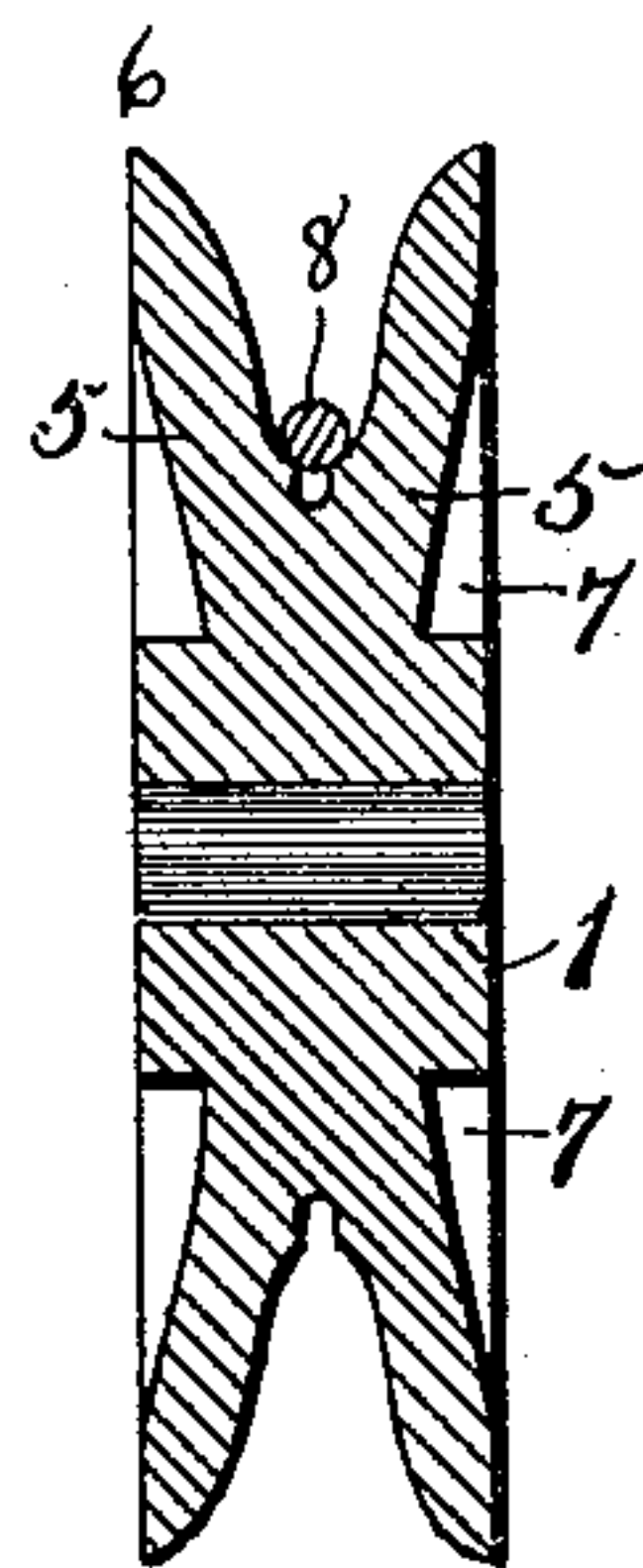
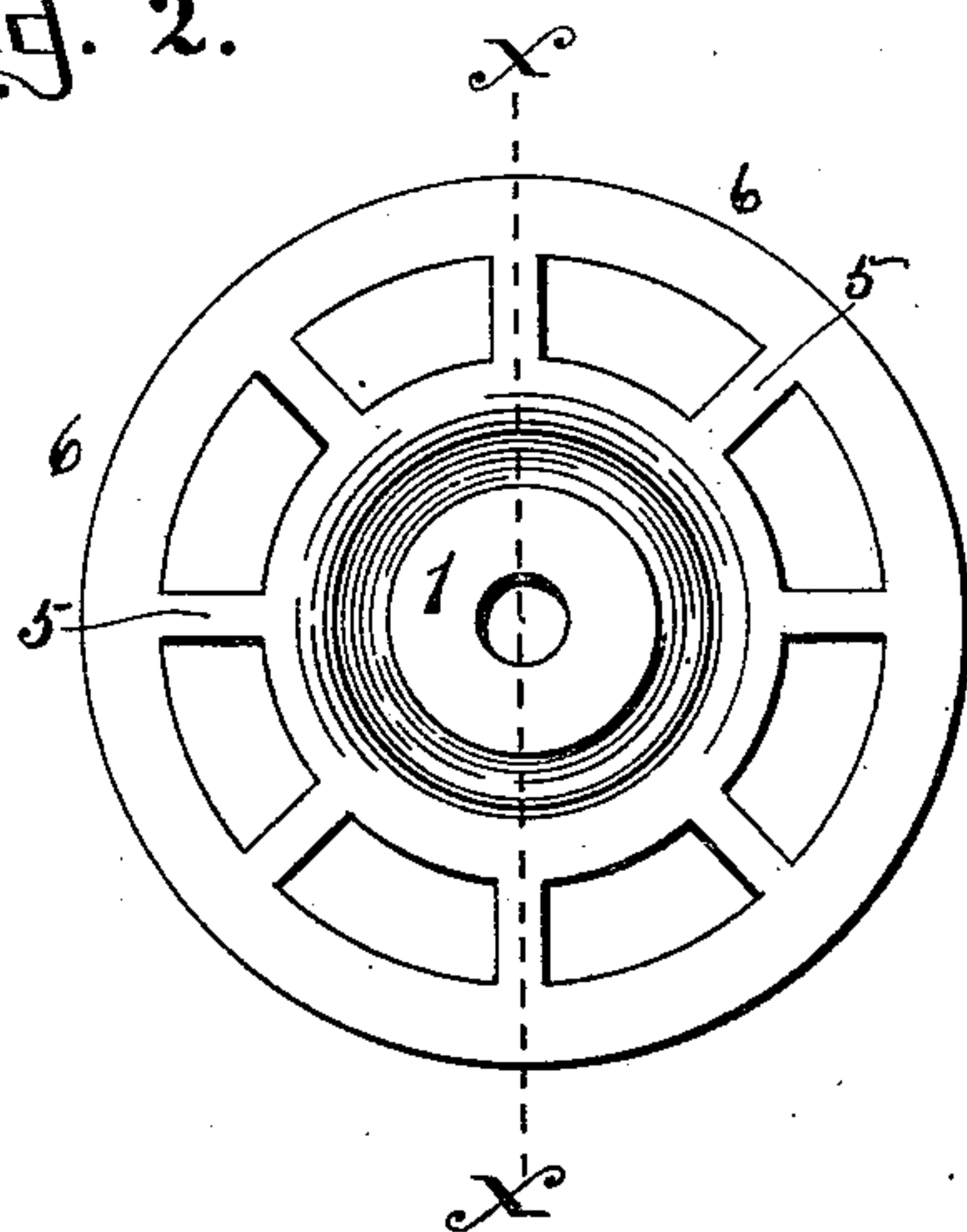


Fig. 3.

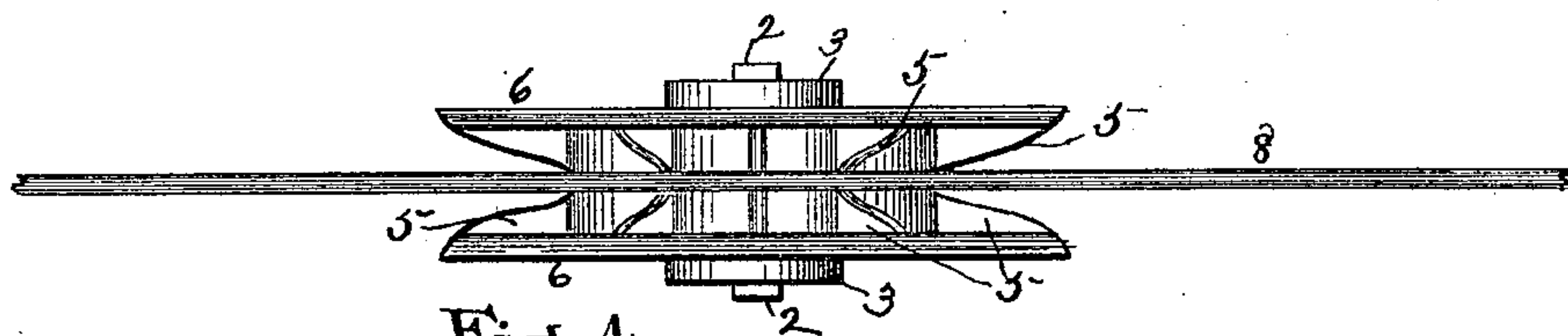


Fig. 4.

Witnesses  
H. A. Caskart  
C. B. Kime.

George E. Lewis Inventor

By his Attorneys

Smith & Denison

# UNITED STATES PATENT OFFICE.

GEORGE E. LEWIS, OF SENECA FALLS, NEW YORK.

## TROLLEY-WHEEL.

SPECIFICATION forming part of Letters Patent No. 459,588, dated September 15, 1891.

Application filed December 20, 1890. Serial No. 375,389. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE E. LEWIS, of Seneca Falls, in the county of Seneca, in the State of New York, have invented new and useful Improvements in Trolley-Wheels, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to the construction of trolley-wheels for use by electrically-propelled cars.

My object is to produce an improved wheel having a central hub, rims connected thereto by spokes, a wire seat in the inner ends of the spokes, a clearance-groove in the hub between the spokes, or partly in the hub or wholly in the spokes, the said spokes having inner converging walls, so as to adapt the wheel to crack all ice off from the wire which may gather or collect thereon from any cause, such as a storm of sleet.

My invention consists in the several novel features of construction hereinafter described, and which are specifically set forth in the claims hereunto annexed.

It is constructed as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of the trolley-wheel in position for use. Fig. 2 is an enlarged side elevation of the wheel detached. Fig. 3 is a vertical transverse section on line X X in Fig. 2. Fig. 4 is a top plan view of the wheel upon the wire, as in Fig. 1.

This wheel has a solid hub 1, perforated centrally to receive the arbor 2, and 3 is a yoke in which the wheel is mounted, said yoke being secured upon a trolley-arm 4 of any desired construction. It also has spokes 5 radiating from the hub, and 6 is a rim upon the outer ends of the spokes, there being two sets of spokes and two rims, the latter being parallel to each other.

In the hub, or partly in the hub and partly in the spokes, or entirely in or between the inner ends of the spokes, I make a clearance-groove 7 of less diameter than the wire 8. The inner faces of the spokes converge from the rim inwardly, and at their bottoms are rounded out so as form a seat for the wire, said groove opening outward into this seat. The inner faces of the spokes are shown as flat, creating sharp edges.

It happens many times in cool weather that a storm of sleet, rain, or a heavy mist or fog will cause ice to form upon the trolley-wires, and my wheel is designed to remove that ice, which, being a non-conductor, must be removed. At present it is removed by striking the wire with poles or iron bars. It will be readily seen that the sharp edges of the spokes will bite into and break the ice, that the groove 7 will receive the fine chips from the underside of the wire, that the openings between the spokes will permit the ice to fly out laterally, and that the converging faces of the spokes will maintain and keep the wire in its proper position in the seat, so that the sharp edges will have the best effect, and that a knot or tie in the wire will readily pass between said converging spoke-faces.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A trolley-wheel consisting of a hub, spokes radiating therefrom, and parallel rims upon the extremities of the spokes, said spokes having inner faces converging to the seat for the trolley-wire, as set forth.

2. A trolley-wheel consisting of a hub, spokes radiating therefrom and having sharp edges upon their inner converging faces, a seat for the wire at the inner ends of said inner faces, and parallel rims upon the outer ends of said spokes, as set forth.

3. A trolley-wheel consisting of a hub, spokes radiating therefrom, having sharp edges upon their inner converging faces, a seat for the wire at the inner ends of said inner faces, parallel rims upon the outer ends of said spokes, and a clearance-groove opening outwardly into the wire seat, as set forth.

4. A trolley-wheel having in its outer periphery a wire seat provided with sharpened transverse edges in its converging sides brought successively into contact with the wire by the rotation of the wheel.

In witness whereof I have hereunto set my hand this 8th day of December, 1890.

GEORGE E. LEWIS.

In presence of—

H. P. DENISON,  
C. W. SMITH.