(No Model.) 2 Sheets—Sheet 1.

A. M. LEINWATHER.

CAR WHEEL.

No. 490,571. Patented Jan. 24, 1893.

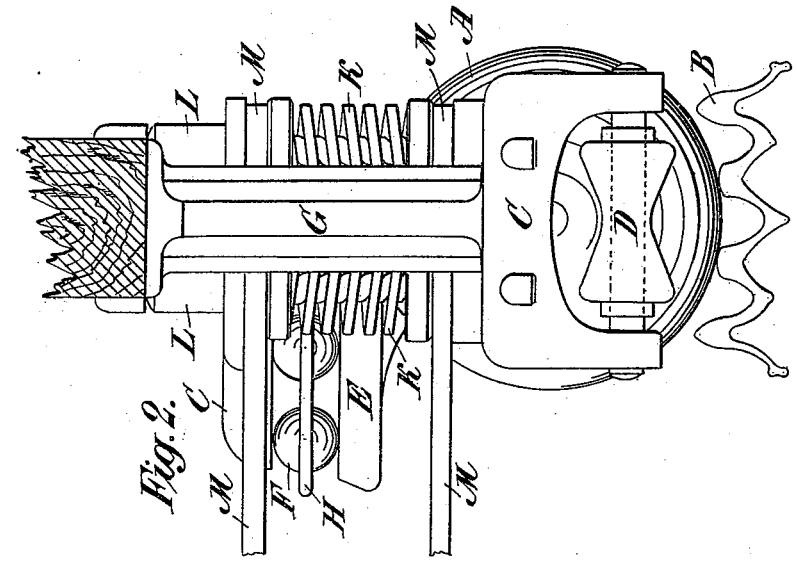

Fig. 2.

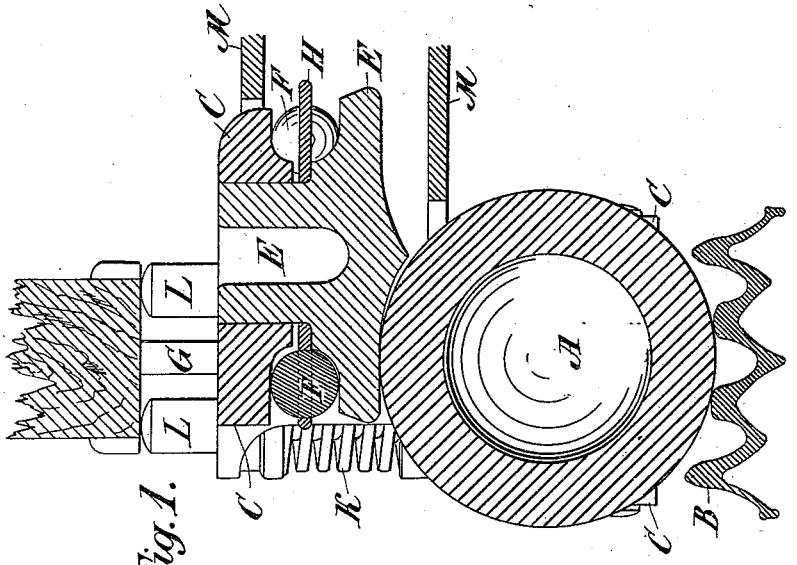

Fig. 1.

Witnesses.
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Roy C. Bowen

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By Whitman & Wilkinson,
Attorneys.

(No Model.) 2 Sheets—Sheet 2.

A. M. LEINWATHER.

CAR WHEEL.

No. 490,571. Patented Jan. 24, 1893.

Fig. 3.

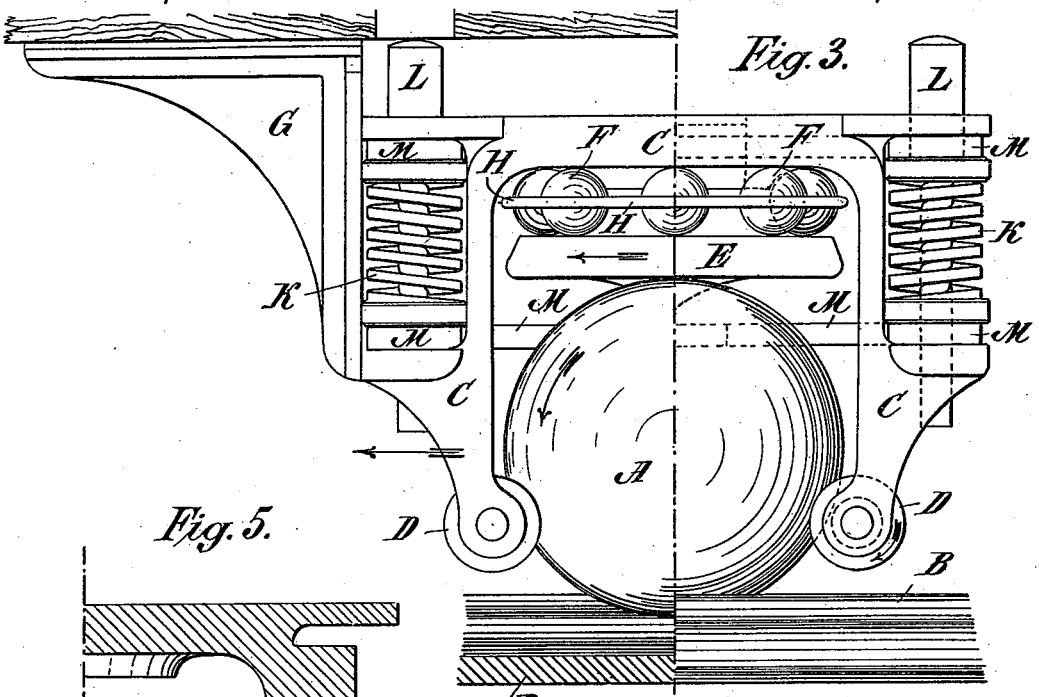


Fig. 5.

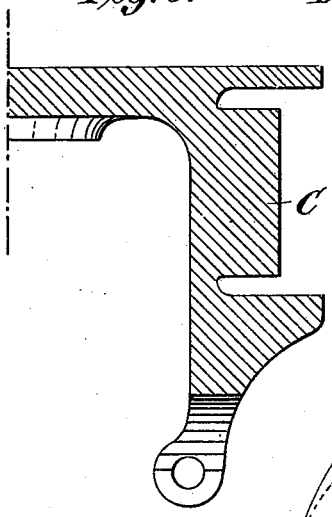
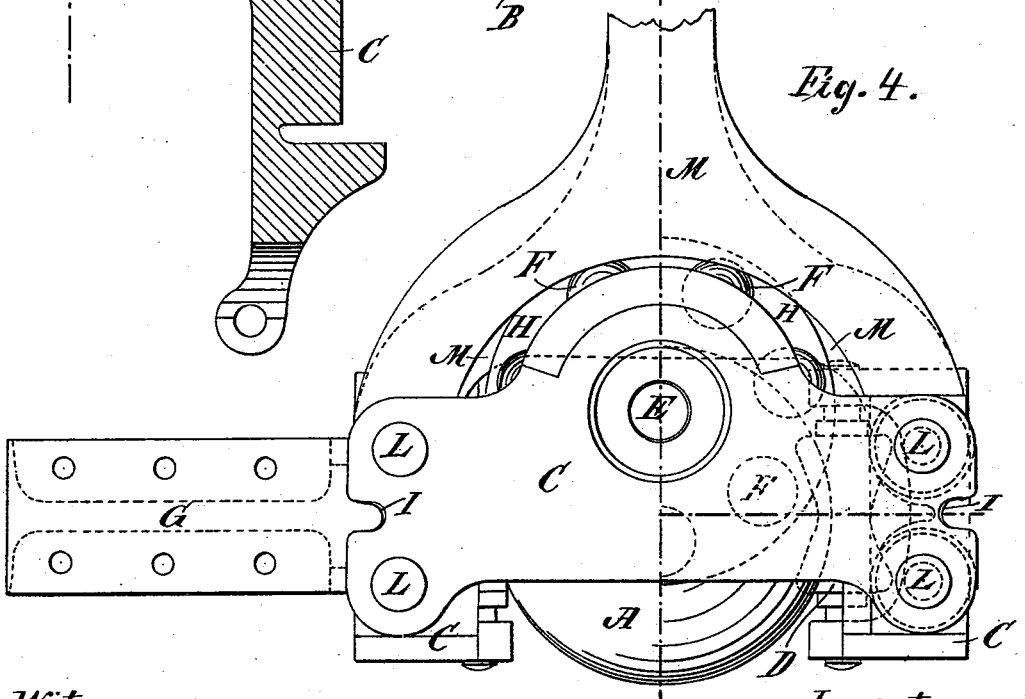


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

ALOŸS MARIA LEINWATHER, OF BASLE, SWITZERLAND.

CAR-WHEEL.

SPECIFICATION forming part of Letters Patent No. 490,571, dated January 24, 1893.

Application filed October 24, 1892. Serial No. 449,831. (No model.) Patented in Switzerland July 2, 1890, No. 2,436; in Germany July 11, 1890, No. 60,143; in England July 23, 1890, No. 11,543; in France July 25, 1890, No 207,215; in Belgium August 20, 1890, No. 91,678, and in Austria-Hungary November 13, 1890, No. 3,314 and No. 3,278.

To all whom it may concern:

Be it known that I, ALOŸS MARIA LEINWATHER, a subject of the Emperor of Austria-Hungary, and a resident of the city of Basle, Switzerland, have invented certain new and useful Improvements in Car-Wheels, (for which I have obtained patents as follows: in Switzerland, No. 2,436, dated July 2, 1890; in Germany, No. 60,143, dated July 11, 1890; in France, No. 207,215, dated July 25, 1890; in England, No. 11,543, dated July 23, 1890; in Austria-Hungary, No. 3,314 and No. 3,278, dated November 13, 1890, and in Belgium, No. 91,678, dated August 20, 1890,) of which the following is a specification.

This invention relates to spherical car-wheels to be used on railways the rails of which have a number of longitudinal corrugations or ridges.

With reference to the accompanying drawings: Figure 1 is a vertical section on line 1, 1 Figs. 3 and 4, Fig. 2 a front view, Fig. 3 a side elevation and Fig. 4 a plan of the improved ball wheel. Fig. 5 shows in vertical section the guard C hereinafter referred to.

The improved spherical wheel consists of a hollow or solid ball or sphere A designed to run on the longitudinally corrugated rails B. A guard C has journaled in its downwardly projecting arms two guide rollers D shaped like bobbins or spools and kept in close contact with the ball at its lower front and rear parts as clearly shown in Figs. 2 and 3. The top of this guard C forms the bearing of a pivot plate E resting against the top of the ball, antifriction balls F being interposed between the top of the guard L and the pivot plate E in order to diminish friction. These balls F are separated from each other by a disk H provided with circular holes to receive the balls F. The form and position of the pivot plate E are substantially those shown in the drawings.

The guard C is held in position by the bracket G secured to the car frame and having ribs entering into vertical grooves I at the side of the vertical arms of the guard.

The weight of the car is transmitted to the guard C by means of spiral springs K which bear against the underside of washers on bolts L—on the top of which the car frame rests—and against the top of brackets on the downwardly projecting arms of the guard C.

The guards C of two corresponding wheels at opposite sides of the car are held connected by gage rods M secured to such guards.

When the car is drawn forward the ball A and the pivot plate E revolve as indicated by arrows in Fig. 3.

I claim—

1. The combination of the spherical wheel or ball A with the guard C provided with downwardly projecting arms and guiding rollers D journaled in said arms in contact with said ball, substantially as and for the purposes described.

2. The combination of spherical wheel A, guard C and guiding rollers D, with longitudinally corrugated rails B, substantially as described.

3. The combination of spherical wheel A, guard C, pivot plate E and antifriction balls F, substantially as described.

4. The combination of spherical wheel A, guard C, spiral springs K and bolts L.

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

ALOŸS MARIA LEINWATHER.

Witnesses:
GEORGE GIFFORD,
E. GIRARD-THELLING.