J. K. MORANGE & N. B. MORANGE.

Improvement in Casting Car-Wheels.

No. 114,958. Patented May 16, 1871.

Fig: 1.

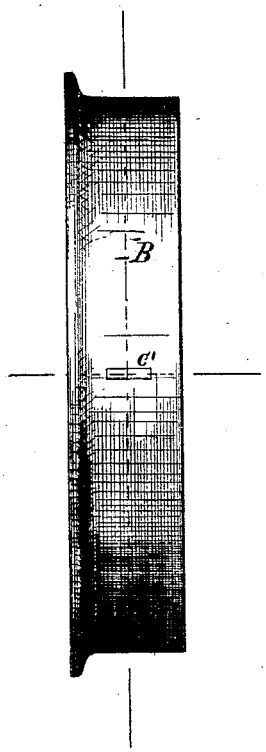


Fig: 3.

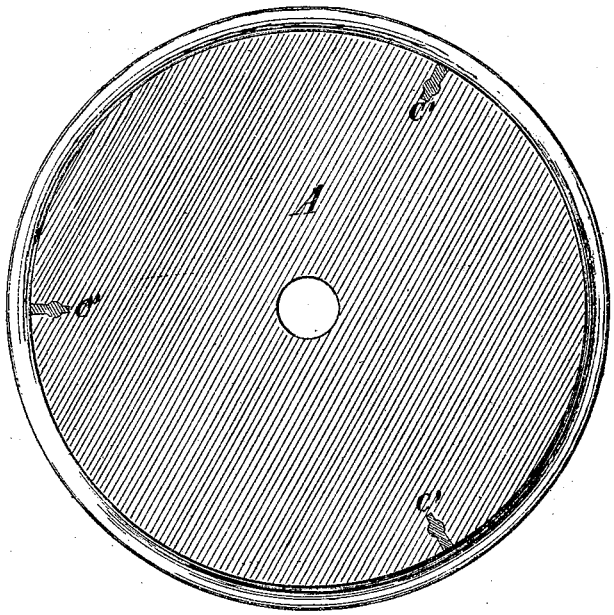
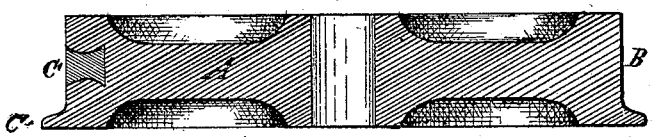


Fig: 2.



Witnesses,
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JAMES K. MORANGE AND NAPOLEON B. MORANGE, OF PITTSBURG, PENNSYLVANIA.

Letters Patent No. 114,958, dated May 16, 1871.

IMPROVEMENT IN CASTING CAR-WHEELS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, JAMES K. MORANGE and NAPOLEON B. MORANGE, both of the city of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Constructing Car-Wheels, the same being an improvement upon the method of constructing car-wheels for which Letters Patent were granted to Cornelius Kingsland, December 17, 1867, and numbered 72,405; and we do hereby declare that the following is a full, clear, and exact description of our improvement.

The nature of our invention consists in constructing a wheel for railways with a recess or recesses made in its periphery or tread at a point or points which is or are between the flange and outer edge of the wheel, substantially as hereinafter described.

To enable others skilled in the art to make and use our invention, we will proceed to describe more fully its construction.

In the accompanying drawing which forms part of our specification—

Figure 1 is an edge or side elevation of an ordinary wheel for railway cars, and represents the recess made in its periphery or tread.

Figure 2 is a transverse section of the wheel when cut through at line *y* of fig. 1.

Figure 3 is a vertical section of the wheel when cut through at line *y* of fig. 1.

In the accompanying drawing—

A represents the disk of the wheel;

B, its tread; and

C, its flange; all of which are of the ordinary form.

In the process of casting we form in the tread or periphery B of the wheel one or more recesses, which is or are arranged at a point which is between the flange C and the outer edge or face of the wheel, so as to form four walls to the recess C'. The form of the recess which we have found to be the most durable is clearly indicated at C' in the accompanying drawing.

It will be observed by reference to fig. 3 that the recess or cavity C' on two of its sides is slightly inclined inward toward the center of the bottom of the recess, and in each of these walls is a concavity, all of which is clearly shown in fig. 3. The form of the other two walls of the recess is clearly shown in fig. 2. The recesses C' are made in the tread of the wheel for the purpose of compensating for the difference between the contraction of the metal in the chilled tread B and the disk A, which is not chilled in the process of casting.

The object of making the recesses in the tread of the wheel and the desirable results obtained by thus constructing car-wheels are clearly set forth in the schedule attached to and forming part of Letters Patent granted Cornelius Kingsland, December 17, 1867, numbered 72,405.

The advantages of constructing the recesses in form and arranging them in the tread of the wheel, as hereinbefore described, consist in walling in on all sides the metal or alloy used for filling up the recesses, which filling process is set forth in the patent granted to Cornelius Kingsland and in the patent granted to us September 6, 1870, No. 107,083.

By making the recesses C' in the form hereinbefore described the filling placed in the recesses will have a tendency to become more compact, and cannot be displaced by the action of the wheels upon the rails, and will also prevent the crushing in of the walls of the recesses.

What we claim is—

A car-wheel for railways, with a recess or recesses made in its tread at a point or points which is or are between the flange and outer edge of the wheel, substantially as and for the purpose set forth.

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